NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

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EDITORIAL

By Way of Notice.—This number of the Journal begins the sixty-ninth volume of the publication. At the same time it marks a period of change in the method of presentation of material to its readers. Not only will the same official relation to the Orleans Parish Medical Society be continued, but an added function will be served by the incorporation of the *American Journal of Tropical Diseases and Preventive Medicine*, which has become a part of the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

The close relation in the administration of the two Journals has made this arrangement possible and the American Society of Tropical Medicine has seen the way to continue its official relation to the new combination.

The Journal of Tropical Diseases has served the useful purpose of presenting the necessity for a closer study of the diseases its title has covered, and it will go in with the older publication adding the material spirit and aid which the work of the Society of Tropical Medicine and its members will bring to the JOURNAL, which already for nearly three-quarters of a century has been the largest exponent of tropical medicine in the United States.

The editors of the combined Journals bespeak the continued support of the friends of both in the assurance that the combination can only add material benefit to all concerned, while it especially emphasizes the importance of the field of Tropical Medicine and of its presentation from this part of the world, where particular opportunity is afforded for its study and investigation.

The encouragement to contributors of material in a wider circulation of their product, and to an audience which is world-wide, should continue to attract to the pages of the new JOURNAL the best of American work in Tropical Medicine, and to such these pages are always open.

The importance of New Orleans as a medical center, with a great university as a stimulus and with one of the leading medical colleges and its staff largely interested in the material within the JOURNAL'S pages, promises a future of considerable interest to the readers of this publication. So much of original material comes out of Tulane and out of New Orleans through the pages of the JOURNAL that the contingent which is supplied should be interested in our future progress and welfare.

The combination of the membership of the Orleans Parish Medical Society and of the American Society of Tropical Medicine means a variety of effort from the best of local intellect and the very best of contributing support abroad.

We are sure of our own desire to make the new JOURNAL all our readers wish it and we are hopeful that they will help us to that end.

ORIGINAL ARTICLES

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

SYMPOSIUM ON BLOOD DYSCRASIAS, ASSOCIATED WITH SPLENOMEGALY.

I.

The Etiology and Pathology of the Blood Dyscrasias Associated with Splenomegaly.*

By J. A. LANFORD, M. D.,
Assistant Professor of Surgical Pathology, Tulane College of Medicine, New Orleans.

The subject assigned is so stupendous that it is impossible in a brief paper to consider anything more than the salient points.

The blood dyscrasias associated with splenomegaly may be easily divided into two classes:—

1st. Those in which the red blood cells are primarily and chiefly affected.

2nd. Those in which the white blood cells first show abnormal changes.

It must not be forgotten, however, that neither of these conditions can long exist without the other cellular elements of the circulating blood showing pathological changes.

In class one (1) will be considered two different conditions:—

1st. Pernicious anemia, which is a disease primarily of the bone marrow in which the red cells of the circulating blood first show characteristic pathological changes.

2nd. Several conditions in which the changes in the blood are secondary to some pathological process elsewhere.

Pernicious Anemia.

The etiology of this unfortunate condition continues to elude the vigilant search of many capable workers and remains hidden.

Many theories have been advanced to explain the disease and an etiological relationship claimed for certain factors, but the observations suggesting the theory were never confirmed by other than the original worker.

*Read before the Orleans Parish Medical Society, March 13, 1916. [Received for Publication April 22, 1916.—Eds.]

Among the first ideas advanced was that of Quincke, who attributed the gradual but constant destruction and diminution of the red blood cells to a poison absorbed from toxic substances in the alimentary tract.

He based his theory on the fact that, at autopsy, in almost every case, there is a marked decrease in the glandular elements of the mucosa of the entire alimentary tract and the absence of these glands meant the absence of the necessary enzymes for digesting the food, allowing intestinal putrefaction to take place. The absorption of these putrefactive toxins produced the symptom complex of pernicious anemia.

These observations were followed by animal experiments and it was soon proven that extracts from the intestinal contents of patients suffering with pernicious anemia produced no different lesion when injected into animals than similar extracts from healthy persons.

Because of the fragility of the red blood cells and their rapid disappearance from the circulation at times it is evident that some hemolytic agent is at work. The origin of this hemolytic agent is not known and, although some authorities locate it in the spleen or lymph node, it is a fact that there is no more evidence of hemolytic action in the blood of the portal vessels than in other parts of the circulation. From reports of improvement following splenectomy, however, it is suggestive evidence that the spleen is either the principal offender, or at least a contributory factor.

In this connection it is interesting to consider the work that has recently been done in pernicious anemia of horses. Autopsies on eighty-one horses dead of pernicious anemia, showed in the stomach several varieties of fly larvæ. Extracts from these fly larvæ, when injected into other horses produced a type of anemia which clinically resembled the spontaneously occurring disease. This suggests that there is some chemical substance derived from some part of the alimentary tract which, on absorption, produces the marked anemia clinically spoken of as pernicious anemia.

Such a substance is derived from the decomposing bodies of bothriocephalus, which produces a clinical picture quite similar to pernicious anemia and which for some time was not separated from this disease. Whatever its origin, the distinguishing fea-

ture is the fact that the anemia is entirely disproportionate to any apparent cause and when once established tends to progress to a fatal issue.

The principal pathology is the progressive anemia and destruction of red blood cells.

The circulating blood shows a marked decrease in the numbers of its cellular elements. The red cells vary markedly in shape, size, and staining reaction and many of them are embryonal in character. The iron content is proportionately increased.

The destruction of red cells results in the deposit of iron salts in many of the organs of the body, principally spleen, liver, kidney and heart. Fatty degeneration of the glandular and muscular structures is a striking picture. Hemorrhages into the various body cavities are a frequent occurrence because of fatty degeneration of the vessel wall and diminution of the coagulation of the blood, as well as the unknown hemolytic substance.

The spleen is enlarged in only about 50% of the cases, and is never a striking finding. It occasionally is smaller than normal, but the decrease in size is probably due to some previous inflammatory process.

The most striking change noticed at autopsy is the character of the bone marrow. Instead of its usual butter-like color and consistency, we find a substance of a raspberry color resembling jelly.

The microscopic picture of this substance shows a more or less complete replacement of the normal fat cells of the marrow with embryonal red cells. The replacement of the adult yellow marrow with embryonal red marrow is very suggestive of a neoplastic change, in which the type cell is the erythroblast, that, as a result of some unknown stimulus, has overcome the subtle physiological restraint which limits cell growth and shows the autonomy or cell anarchy seen in the cells of other neoplasms. Further evidence of a neoplastic condition is the fact that it has recently been shown that small metastatic areas of myeloid cells are found in the liver, spleen and kidneys and a comparison of the clinical picture of pernicious anemia shows a marked resemblance to that produced by malignant new growths.

Splenic Anemia.

One of the most striking forms of chronic progressive anemia associated with an enlarged spleen is the condition spoken of as Banti's Disease. This condition is also of unknown etiology, and has too been the incitant of many theories. It was for some time considered a part of the pathology of cirrhosis of the liver, but a study of many cases showed that while cirrhosis was a frequent symptom, it is secondary to the splenomegaly and anemia.

In recent years a bacterial origin has been ascribed by Gibbons and others. The former based his theory on the finding of streptothricial organisms in stained microscopic sections of six spleens removed from cases of Banti's Disease. The author has studied the bacteriology of splenic anemia and has cultivated several stains of diphtheroidal organisms from spleens removed at operations and autopsy, as well as from the circulating blood. However, stained sections of the spleens failed to show any organisms and, all animal inoculations being uniformly negative, he is inclined to believe that the recovered organisms were either extraneous contaminators or were temporarily present in the diseased organ because of a lowered resistance.

Since the removal of the spleen in early cases has resulted in a large proportion of recoveries, we are forced to conclude that the spleen plays an important part in etiology.

The most striking picture at autopsy is the enlarged spleen, which sometimes fills the entire abdominal cavity, being from 10 to 15 times larger than normal. This enlargement is associated with an increase in density.

Microscopic sections show a marked increase in the connective tissue with atrophy of the Malpighian bodies. The capillaries and sinusoids are distended with blood and many large cells with phagocytized red blood cells are noted. Occasionally large areas of free blood are found under the capsule, simulating a hemorrhagic infarct. These conditions suggest a passive congestion and it is a fact that the portal and splenic vessels show sclerosis to a more or less marked degree.

Next to the large spleen the most striking lesion noted is the extreme anemia, associated with a decrease in the number of red cells. The white cells are also markedly decreased. Hemorrhage is frequent and an almost constant finding. I recall an autopsy in which the entire alimentary canal was filled with

blood, the patient having bled to death through the capillaries of the mucosa, as no large ulcer was found, after careful search.

Blood pigment is rather frequently noted in the various organs.

Cirrhosis of the liver is a constant finding in a more or less marked degree. Ascites and at times general anasarca are frequent, and passive congestion of abdominal viscera are noted.

The bone marrow is much darker than normal and shows an increase in the number of embryonal red cells.

There is a group of protozoal infections which are associated with marked blood destruction and splenic enlargements. One of these, malaria, is usually followed by contraction of the spleen and will not be further considered.

The other protozoal infection, which constitutes the clinical picture of kala-azar, is due to the parasite *Leishmania donovani*, which gains entrance into the body probably through the bite of some insect. It is taken up by the endothelial cells and leucocytes and, gaining entrance to the circulation, is widely distributed to most of the organs of the body. It produces a marked anemia and muscular atrophy. The spleen is enormously enlarged and fills up more than half of the abdominal cavity. It is very firm in consistency, distended with blood and contains numerous cells filled with parasites. This disease is distinctive in that the etiology is known.

In class two (2) there are two distinct clinical entities, in which the white blood cells of the circulating blood first show pathological changes, which are associated with splenomegaly. These are spoken of as lymphatic and splenomyelogenous leukemias. The etiology of the conditions remains obscure, although it occasionally has been assigned to some micro-organism, but in every instance confirmation was lacking.

Within recent years the two conditions have been considered as tumors in which the circulating blood is filled with the peculiar cells in various stages of development and differentiation.

The lymphatic type is characterized by an excessive number of lymphocytes in the circulating blood, sometimes 100,000 or more per c. m. being noted. These cells are derived from the germinal follicles of the lymph nodes or gastro-intestinal tract or spleen. Clinically we recognize two distinct types depending on the rapidity of the growth. In the acute type, the presence

of these cells in the circulating blood is usually secondary to a primary growth elsewhere as the mediastinal, cervical or inguinal glands, in which the lymphoblast has reverted to the embryonal state and by rapid growth and entrance to the lymphatic circulation has involved an entire group of glands before the cells gain entrance to the circulation. It may happen that the principal growth is in the blood alone, there being little involvment of the spleen and superficial lymph nodes. This is the most acute type, in which the cells are of the large form.

In the chronic type many secondary foci of growth are found in the various organs where they replace the normal structures. I recall an autopsy in which the heart, kidneys and lungs were the seat of many secondary nodules. The lymph nodes are replaced by the new cells and the capillaries and subsinusoidal spaces of the liver and spleen are distended with them. The bone marrow, also, is the seat of the new growth and many lymphoid cells replace the normal elements. Anemia is quite a striking symptom.

The other type of leukemia, the myelogenous, springs from the myeloblast of the bone marrow. This is the embryonal cell from which the several types of leucocytes are developed. It is characterized by an excessive number of these cells in various stages of development in the circulating blood. I have myself seen a case having 1,325,000 pr. c. m. m. The blood is considerably lighter than normal, being somewhat of a light chocolate color. The red blood cells are very much diminished in number and show degenerative changes. The spleen is enormously enlarged, sometimes attaining a size 15 to 20 times greater than normal. The enlargement is due partly to hyperplasia and thickening of the capsule, but principally to the multiplication of the tumor cells.

The bone marrow is rather characteristic in appearance, being of a yellow pyoid character resembling pus. The liver, kidneys and lymph nodes show marked increase in size and density. This increase is due to the multiplication of the tumor cells occurring in the stroma of the part as well as in the blood and lymph vessels.

In conclusion, we are forced to admit that, with the exception of kala-azar, the etiology of these interesting blood conditions remains theoretical and unproven.

II.

Blood Dyscrasias Associated with Splenomegaly.*

By JOSEPH D. WEIS, M. D.,
Professor of Tropical Medicine, Tulane College of Medicine, New Orleans, La.

Quickly and somewhat superficially (I hope not too superficially) I wish to review the medical aspect of the following blood dyscrasias associated with splenomegaly.

Blood Dyscrasias with Splenomegaly:

Leukemia: Lymphatic, Splenomyelogenous.
Splenic Anemia (Banti's Disease).
Kala-azar (protozoan splenomegalies).
Pernicious anemia.
Post malarial anemias.
(Severe secondary types.)

I am very glad of this opportunity for two reasons—one, perhaps the most important, certainly so to me, is, that after twelve years of rather dilatory observations in New Orleans upon just such classes of cases, I am compelled to condense this loose array into some compact order for presentation, and incidentally to view it after condensation, so to speak, giving me a vision of the whole twelve years which I have up to the present never stopped to take. The second reason is less personal, and pertains to you. I mean I am glad, if possible, to clear up and succinctly separate the different splenomegalies—more especially those forms which conflict in nomenclature rather than in actual symptomatology. For really there can be no confusion between any of the forms of disease above mentioned as far as their symptoms and signs are concerned.

Where I do find confusion is in the names of these diseases. Obviously this confusion is, then, simply one of superficial observation, or rather not so much observation as attention to the matter itself. No one who is in constant contact with medical wards and medical types of disease and therapeutics would ever make such obvious errors as I have met with often enough in the diagnosis and apparent hopeless confusion of blood pictures in these diseases.

Knowing that the audience to-night is a mixed one, what I mean is, that there are present members of all the specialties as

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well as surgeons and internists, I am glad if I shall be able to fix in the minds of those who are interested at all, the absolute sharp and definite differences which exist between each one of the forms of disease always classified together in textbooks on medicine, as well as in lectures on internal diseases, or grouped into an evening's symposium as, for example, this present presentation.

The leukemias are blood dyscrasias of definite type. What signals them out from all other forms of disease associated with splenomegaly is the enormous leucocytosis always found associated with the symptom complex known as leukemia. Clinically the essential difference between the two forms themselves is the presence of enlarged lymphatic glands in the lymphatic form and the absence of lymphatic enlargement in the spleno-myelogenous form. Again, the splenomegaly of spleno-myelogenous leukemia is always extreme (this disease presents the largest spleen found in whatsoever disease); while the splenic enlargement is present in lymphatic leukemia, it, however, is never so monstrously big as in the myelogenous type.

The essential difference between these two diseases, however, lies deeper. The blood itself presents an absolutely different picture, in both diseases. To my mind there is no similarity in these diseases other than the total leucocyte count increase. The actual increase is due to entirely different elements in both conditions.

Lymphatic leukemia shows an increase of an unit of the blood. The mononuclear lymphocyte almost entirely the small forms—as much as 99.9%, while myelogenous leukemia gives a varied picture of increase of all types with the additional presence of a new cell, the myelocyte, a cell which is never found in normal blood, or in any of the known classified, so-called blood diseases, except in this disease and in pernicious anemia.

Definitely, then, under the heading of splenomegaly with leucocytosis, there are but two diseases, the leukemias. All the other diseases showing splenomegaly with blood dyscrasias present an opposite type, namely, the type associated with leucopenia, or with a normal total leucocyte count.

Superficially this is true; actually it is false, because there are numerous states of convalescence from acute disease which present enlarged spleens, anemias of more or less grave types and

a leucocyte increase—a leucocytosis—varying with the type of acute disease which has caused the anemia and splenic tumor. For instance, septic states in convalescence show splenomegaly, anemia, and leucocytosis, as do many anemias of malnutrition, more especially in infants and children. However, it is still wise for the general practitioner to consider all splenomegaly with leucocytosis as possibly leukemias until they are proven not to be, by time and treatment.

Pernicious anemia and splenic anemia, though widely different diseases, are both dyscrasias without leucocytosis; nay, more, they are both associated with marked leucopenia.

As a matter of fact, pernicious anemia shows little or no tumefaction of the spleen; indeed, spleens smaller than normal are found in pernicious anemia. Really pernicious anemia should not be classified as a splenomegaly, but, as it is without doubt the greatest of blood dyscrasias which may have a slightly enlarged spleen, I mention it.

Splenic anemia, however, presents an enormous splenic enlargement, second only to myelogenous leukemia in the greatness of the splenic tumor. Always in splenic anemia the leucocytes are very low—below normal, a definite leucopenia. Indeed, secondary anemia with enlarged spleen and a leucopenia is pathognomonic of splenic anemia.

Splenic anemia (as I have before stated in a previous paper read before this Society) is really a synonym of acute Banti's Disease, and if splenic anemias live long enough they will probably all terminate in the Banti symptom complex, namely, atrophic cirrhosis and ascites. Hence, Banti's disease, when firmly established, is again a splenomegaly with a leucopenia.

Kala-azar, or tropical splenomegaly (the Sahib's disease or Dum-dum fever of India) is a chronic infectious disease with irregular fever, enlarged spleen and liver with Leishman's bodies in these and other organs, a leucopenia and a relative mononuclear leucocyte increase.

States of lymphemia with palpable spleens come under one's notice often enough—very baffling indeed some of them are. In my tabulations I have twelve cases all except one of whom have apparently completely recovered, who have showed, at some time, palpable spleens, anemia, leucocytosis, normal leucocyte counts or leucopenia (apparently there is no constancy present

in these undefined states); but all in their differential counts show marked lymphemias, varying from 35 to 85% mononuclear cells (case of H. K.). Purposely I have not gone into detail of differential counts and other microscopic findings.

Symptomatically it may be said that all of these diseases produce symptoms which are wonderfully similar. Without the microscope it would be difficult indeed to differentiate any one of them from the other. Subjectively it may be said that patients suffering from any of the splenomegalies may have fever or may not; all have weakness, more or less emaciation and the general complaints of anemia, namely, lassitude, dyspnea and palpitation on exertion. Weakness, however, is the most prominent symptom.

From what has been already said, objectively, such patients will obviously differ, as for example glands are present in lymphatic leukemia and absent in all other forms of splenomegaly, except perhaps kala-azar;— will differ also in size of spleen, in presence or absence of hepatic complication, ascites and so forth. It would be useless and beyond the point to go into detail of symptomatology.

Again, the treatment of all of the blood dyscrasias associated with splenomegaly is remarkably similar—which means we know nothing whatsoever of the etiology of any of them (excepting only kala-azar).

Arsenic may be said to be the sine-qua-non in the therapeutics of these conditions. Arsenic as cacodylate hypodermatically and by mouth, arsenic as Fowler's solution, arsenic as the trioxide and as salvarsan, are all employed in all of them, as is also the X-ray over the splenic tumor itself, over glands when present, and over the shafts of long bones.

In the leukemias, benzol in doses from 10 to 25 minims, three times a day, holds the total white count down, much as phenacetin does temperature in febrile conditions. Beyond such action I personally do not believe benzol has any effect.

To sum up:—

The splenomegalies with blood dyscrasias are etiologically mysteries; they are essentially different diseases and probably have nothing in common actually. A great subdivision is into two classes:

One with leucocytosis; one without leucocytosis.

The essential difference lies in the differential counts and the presence or absence of lymphatic glands, enlargement and size and shape of the splenic tumor.

Their symptomatology is similar in that it is almost entirely that of anemia and the treatment is similar—namely the use of a hemapœtic drug to combat the anemia.

III.

The Blood Dyscrasias Associated with Enlarged Spleen.*

By F. W. PARHAM, M. D.,
Professor of Surgery, Tulane College of Medicine, New Orleans.

As the surgery of blood dyscrasias is practically concerned with the role we must assign to the spleen in bringing them about, it might be useful to discuss first the conditions in which enlarged spleen is found and what beneficial effect we may expect from its removal.

It is possible, as W. J. Mayo suggests,

> "that the spleen, an organ not necessary to life and not causing disease on its own initiative, is the one link in an otherwise fatal chain which can be easily and safely broken."

Further,

> "as the removal of the tonsil may prevent generalized infections responsible for all sorts of acute and chronic conditions, the tonsil itself not being essential to life, so splenectomy may cure certain disease-conditions of the nutritive system, especially those of the liver and blood."

As to either tonsil or spleen being a useless organ there may be some question, especially as to the spleen, which seems to play a part in resistance to infectious disease. We know that normally it has a function of hemolysis and phagocytosis, so that it has often been spoken of as a "scavenger," or as the "graveyard" for defunct and senile red corpuscles. We know, however, of other organs, which, normally useful, may become a positive menace and are removed with benefit. We have learned, too, that in the case of the spleen, its normal useful function of hemolysis and phagocytosis may be much exaggerated and under circumstances threaten life. Such considerations admonish us

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that the spleen should only be removed when it has ceased to be useful and its retention would be a menace.

Splenic enlargements are all abnormal, but many are benefited by appropriate treatment of the cause and no spleen is to be sacrificed unless it is apparent that its enlargement bears a direct etiological relation to the condition which is threatening life, and only then if its removal is likely to influence favorably the disease.

Splenic enlargements may be conveniently divided into four groups:

1. New growths.
2. Infections.
3. Enlargements associated with hepatic disease.
4. Those associated with the blood.

1. *New growths.* The spleen may be removed for all new growths when primary, or when secondary for certain reasons.

2. *Infections.*

1. Syphilis. The effect on the spleen is a chronic fibrosis, rarely a gumma. In a few cases the anemia has been markedly benefited by splenectomy (W. J. Mayo), although the liver also is usually involved.

2. Tuberculosis. This is rarely, if ever, primary in the spleen. Splenectomy is only justifiable when the process is absolutely quiescent elsewhere and is unquestionably present in the spleen.

An interesting case reported by Sherman Wight in the March *Annals of Surgery* shows the futility of such an operation where there has been tuberculosis elsewhere, although apparently well.

3. *Splenic enlargements associated with hepatic disease.*

1. Primary biliary cirrhosis of Hanot type. A few cases have been markedly improved by splenectomy.

2. Portal cirrhosis. In four cases in Mayo clinic greatly enlarged spleen has been removed with marked improvement, both anemia and ascites disappearing. Time sufficient has not yet elapsed to know end results.

4. *Splenic enlargements associated with the blood.*

(1) Leukemia. It matters not whether we consider the myeloid and the lymphatic forms as distinct or as essentially the same, the only difference being the starting point of the disease, it is useless to contemplate seriously

> surgical intervention, as the pathologic process involves the whole homopoietic system and no permanent effect can therefore be expected.

This group of splenomegalies, at one time attacked vigorously, "do not," as John Babst Blake has remarked, "belong to the surgeon at all." The mortality (Carstens), 63 out of 66 operations, is prohibitive, and leaves these cases to the internist and the radiologist. A few cases, however, mentioned by W. G. Mayo in a recent article, of splenic anemia with a leucocytosis of 20,000 or more have been operated on and remained well. Several such had been previously diagnosed and treated for true leukemia.

We do not believe, however, that the case against surgery is so strong in

> (2) Pernicious anemia. We believe surgery has a place here, although the pathology of pernicious anemia is still very much in doubt. It is evident that a powerful poison is at work, but where it is elaborated is at present unknown.
>
> "It is generally agreed to-day," writes Cabot, "that the changes we find after death in the bone marrow of cases of pernicious anemia are the result rather than the cause of the disease. The researches of Bunting who produced experimentally in animals a gradual, long standing hemolysis by the injection of small doses of ricin, proved that a typical megaloblastic metamorphosis of the marrow can thus be produced,"

identical with that seen in pernicious anemia. Bunting suggests that we are dealing with a hemolytic process

> "produced by a poison which exerts its action over a considerable period of time."

Lee, Vincent, and Robertson in a recent article mention the fact that

> "Eppinger, Moffit, von Decastello and others have discussed the theoretical and experimental evidence for the assumption that the etiologic factor of pernicious anemia resides in the spleen."

Eppinger in 1913 first called attention to the remarkable improvement in pernicious anemia following removal of the spleen, and Lee, Vincent and Robertson recently reported a series of five cases, unselected, in which there was undoubted marked

benefit in all from splenectomy preceded or followed by transfusion of blood.

Cabot, from whose service these cases were reported, wrote in 1908 in Osler's System of Medicine that

> "transfusion of blood from a healthy individual to a patient with pernicious anemia is not to be recommended and should not be done."

He makes no mention of surgical measures in this article (I have not access to the last edition).

At the meeting of the Association of American Physicians in May, 1915, there was a notable discussion on the treatment of pernicious anemia by blood transfusion and splenectomy. Libman and Ottenberg mentioned 25 cases, in 14 of which there was progressive improvement for a time. In one case there were four transfusions followed by splenectomy, when a remission took place. Cabot in the discussion referred to six cases in which marked improvement followed splenectomy, and four of them are now at work, although previously they were entirely helpless.

Mayo from an experience of 19 cases in the Mayo clinic feels justified in doing splenectomy in selected cases. He feels that if done sufficiently early it will permanently check, if not cure, the condition. Transfusion of blood before or after splenectomy may be necessary. Last summer in Ochsner's clinic I had the pleasure of seeing one case transfused for the second time, improvement after the first having been distinct.

The conclusions drawn by Lee, Vincent and Robertson are very encouraging, but quite justified by the cases reported.

> "1. Splenectomy is not a very serious operation in pernicious anemia, and it offers a definite means of inducing a remission.
>
> "2. The remission thus brought about is more marked in the majority of cases than any other known therapeutic procedure."
>
> (3) Hemolytic jaundice. Goldschmidt, Pepper and Pearce report marked benefit from splenectomy in hemolytic, or acholuric jaundice and explain the result on a basis of increased retention and utilization of nitrogen, decreased uric acid output, reduction of iron elimination and 90% reduction of urobilin elimination. Splenectomy removes, they think, the toxic agent or the source of it.

W. J. Mayo has seen the most brilliant results from splenectomy in this affection.

4. Finally we come to splenic anemia. John Babst Blake read at the last meeting of the American Surgical Association a very interesting and instructive paper on Banti's symptom complex with relation to splenectomy. He recommends splenectomy in splenic anemia for the following conditions: First, in adults, when a diagnosis is agreed upon by a good physician and a competent surgeon. Second, when the condition of the patient is sufficiently good to withstand what may be a very serious operation; or when a poor condition can be sufficiently improved by one or more previous transfusions. Third, in children, only after a very thorough trial of all possible medical methods of treatment, including fresh air, sunshine, careful nursing, liberal and appropriate diet, as well as judicious exhibition of drugs. In a large majority of cases, a high white count or a considerable recurring or continuous fever are contra-indications.

Splenic anemia is distinctly a border line condition. In adults we think that it cannot only be cured by operation, but that by the operation it may be permanently cured. In adults, therefore, it is not necessary to wait except for transfusion once the diagnosis is established. Banti's symptom complex is in most cases a slowly progressing condition, often with periods of distinct improvement. In a minority of cases the disease progresses rapidly and in practically all cases it terminates fatally. Unfortunately neither the public, nor indeed the surgeon, is convinced of the importance of early operative attack. There is no doubt that transfusion is a valuable aid in improving a patient's preoperative general condition. The results sometimes, as in the case of the child related in Blake's paper, are little short of marvelous. The cause of Banti's complex is a most interesting and difficult problem. It would appear, as Warthin seems to have proved, that Banti's disease is a symptom complex resulting from partial occlusion of the splenic or portal vein, and marked obstruction to outflow of blood from the spleen. Blake thinks that it is impossible to read Warthin's exhaustive article without reaching the conviction that the conclusions are correct. According to his explanation, anything which may cause splenic or

portal thrombosis may be the cause of splenic anemia.

Mallory evidently accepts this view, and remarks:

> "Until it is definitely shown that splenic anemia can exist without any evidence of obstruction in portal or splenic vein, Banti's disease and splenic anemia must be regarded as co-ordinated symptom-complexes, and not individual disease-entities" and "the whole pathological picture points to an infective thrombophlebitis of portal or splenic vein as the essential feature of all these cases, no matter under what head reported (splenic or portal thrombosis, splenic anemia or Banti's disease.")
>
> "This," says Blake, "simplifies and explains a good many apparently inconsistent facts: we must believe that infection, whether or not we can trace it, plays the leading role in all cases of phlebitis no matter where located, and that infection of all sorts may cause inflammation and thrombosis in veins, hence it becomes apparent why splenomegaly follows tuberculosis, syphilis, malaria and pneumonia as well, and why it may also follow infection of the gall bladder, as has recently been suggested in the Mayo clinic. Since hypertrophy of the spleen, no matter of what origin, appears to cause in the majority of cases a diminution in red-blood cells and hemoglobin, associated in many instances with a leukopenia, the sequence is as follows: infection causing splenic vein thrombosis; this causing hypertrophy of spleen; this causing anemia and leucopenia, this completing the symptom complex. Splenectomy does not remove the cause, but removes an effect of the cause which had itself become a menace to life."

My own view of the matter is about this: Disease or enlargement of the spleen is a positive causative factor in splenic anemia, and if the enlargement of the spleen is recognized early enough and the spleen removed, the symptoms will in many instances disappear, and the later stages, known as the Banti's complex, be prevented. In other words, I believe it is a disease that if seen early enough can often be cured by surgical intervention. Numerous cases now on record show the beneficial effects of splenectomy in splenic anemia. Only by early operation can we hope to forestall the Banti syndrome, but even a few cases where the disease had advanced to cirrhosis and ascites have been much benefited by splenectomy.

Robertson has proposed a determination of urobilin in the feces as a test of the effect of splenectomy.

AIDS TO SUPRAPUBIC PROSTATECTOMY.*

By JOSEPH HUME, M. D.,
Assistant Professor of Genito-Urinary and Venereal Diseases,
and
SAMUEL LOGAN, M. D.,
Instructor in Genito-Urinary and Venereal Diseases,
Tulane College of Medicine, New Orleans.

Unfortunately, to-night, we are not in a position to show anything new as an aid to prostatectomy operations, but in view of the fact that we are dealing with patients requiring such careful surgical consideration from an already weakened and debilitated condition, we feel that it is a very good thing to bring to your attention, as well as we can, any little points which may help in getting these cases through the danger period of the operation.

We are not going in detail into the numerous and various things which can be done to a case of hypertrophied prostate, but we want particularly to call your attention to three factors, one for each stage of the prostatectomy. These factors have helped us immensely in our operative experience. For purposes of convenience, we will divide these cases into three natural headings:

1st: The pre-operative stage, or the stage of preliminary preparation of the patient.

2nd: The operative stage.

3rd: The post-operative care of the patient and of the wound.

We will take them up in this order.

In the pre-operative stage, the stage of preliminary preparation of the patient, the most important point to which we wish to call your attention is the use of the various kidney functional tests. In the opinion of most of us, the advisability of operation and the patient's chances of recovery depend more on the kidney functions than any other set of organs in the body. Fortunately, we are able by these different functional tests to determine approximately beforehand what our patient's chances are of stand-

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ing the siege of an operation. We wish particularly to dwell upon the phenolsulphone-phthalein test, which is in general use as a preliminary to almost every surgical operation, and certainly to all operations on the kidney, bladder or prostate. Should the functional test be low in reading, meaning thereby that the patient has not much functional capacity of the kidneys, it is not necessarily always a bar to operation. For instance, a patient may have a phthalein indication of only 25% and yet be a better surgical risk than another patient who has a phthalein indication of 40%, 50% or 60%. It depends largely on whether the functional capacity is at a steady level rather than declining; this will be shown by doing repeated phthalein tests. If repeated tests show the phthalein output to be identical, we may assume that the patient, while on a low functional level, nevertheless has a certain steady functional capacity. If, on the other hand, repeated tests show a gradually decreasing phthalein output, it means that our patient is on a decreasing functional capacity, and this patient would decidedly not be as good a surgical risk as the former.

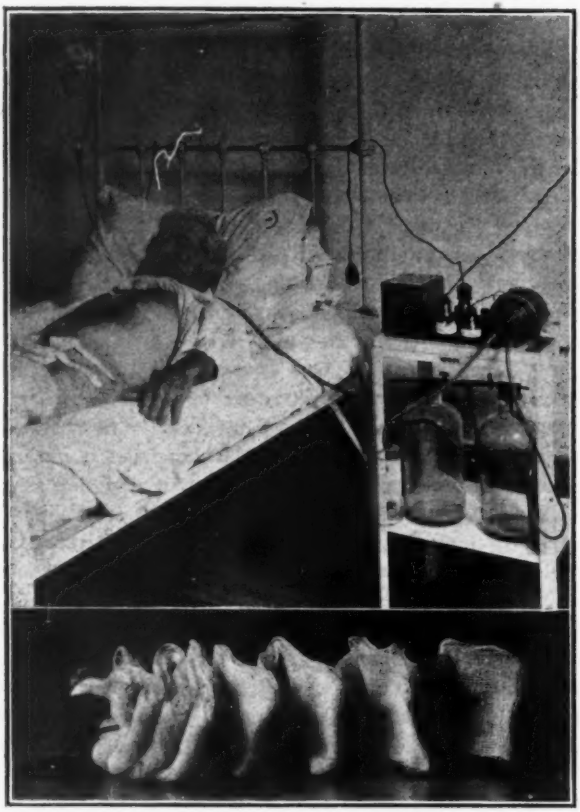
Further, if a patient has persistently low functional readings, we have other methods of determining whether he is bordering on a uremic state or not, and we wish particularly to call your attention to the more recent tests which have been done in this line by Folin, of Boston, and Marshall, of Hopkins, the object of the test being to determine whether the patient has a retention of urea in the blood. Frequently we will find that a patient with a very low phthalein reading, 12% to 15%, which is exceedingly low, will not be retaining in the blood any urea above the normal content. This patient would be a fair surgical risk. On the other hand, we will find some patients with a rather high phthalein output (25% to 40%) who will be retaining urea in the blood in excess of the normal amount. These patients are in the pre-uremic condition and must be looked upon as very poor surgical risks. We would like also to urge the necessity for making series of tests rather than single ones, because experience has proven that repeated tests are much safer. Should you find the patient running at the same functional capacity level, and this a fairly good one, you may safely suppose that he is in a pretty good surgical condition for operation, so far as the kidney output is concerned. If you find the patient is on a decreas-

ing functional capacity level, the operation had best be deferred until some other time when the functional capacity has gotten to its proper level, because if you were to put an extra strain, such as an operation, on a patient of this type, the prognosis would be exceedingly unfavorable.

The next pre-operative point which we think of great importance is the question as to whether the kidneys are infected or not. Most of these patients, from the long-continued presence of infected urinary residual in the bladder, have some degree of ascending renal infection, and to our mind this is always a more grave point than the functional capacity. We prefer, if possible, to treat the infection so as to get it to the lowest point prior to operation. This is not always possible because of the technical difficulty and length of time necessary, but, if possible, an endeavor should be made to get it to the lowest point.

The second point is the operation. This by itself is not such a formidable thing and really does not amount to very much. By means of the suprapubic route, almost any fairly good operator can remove the prostate. There is one point, however, which gives a great deal of annoyance, particularly to the man who is beginning to do these operations. This is the hemorrhage. Once the prostate has been taken out, the hemorrhage is very great and at times assumes an alarming proportion. Opinion as to its control varies greatly; some operators pay no attention to it whatever and think that it is best left to itself. Freyer, of London, who has done probably more prostatectomies than any single operator, disregards it entirely. In a personal communication to us, Dr. Keyes, of New York, said that he, too, had given up attempts to check the hemorrhage, and that Dr. Cabot, of Boston, was of the same opinion. Personally we have never felt secure in our minds when leaving these patients with the excessive bleeding wound in the bladder such as a prostatectomy is left with. We have, therefore, preferred the use of packing the cavity from which the prostate was removed, a device which is not at all new in this class of wound, and which has been suggested and practiced by many operators. We have found a pack such as is illustrated here to be exceedingly useful. The pack is a modified one from a suggestion of Dr. Cabot's, and we had been using it for some time before we knew that he had previously described it.

As seen by the illustration, this consists of a folded gauze strip through which is run a strong silk thread in such a manner that when the thread is pulled upon the pack is folded into a tight wad. This thread is secured by a lead button which gives a very strong point of pressure. It is used as follows: After the



Prostatic Pack for control of hemorrhage after removal of prostate.
Above: Automatic suction apparatus, attached and running, hand switch control and double bottles to accommodate two patients.

prostate has been removed, a urethral catheter is introduced through the penis and the end brought out into the suprapubic wound; the silk thread is tied to the catheter end and the cathe-

ter pulled out of the urethra, thereby drawing the string through with it. The pack unfolded is fed through the suprapubic wound and stuffed into the cavity from which the prostate has been removed; traction is then made on the string projecting out of the penis, and this firmly pulls the pack into place and checks the bleeding almost instantly. It is well to have pressure exerted by means of the string for at least five or six minutes, during which time the operator is engaged in suturing up the suprapubic wound and arranging the dressing and drainage tube.

The pack is left in place about forty-eight hours, or longer, as the case may be, and in our experience fully controls the bleeding, these cases being left as dry and free from ooze as any surgical wound in the body. At the end of forty-eight hours, the pack can be gently removed through the suprapubic wound by pulling on the string attached to the button, which protrudes from the suprapubic wound.

The third point in the discussion is the post-operative care of the patient. In the past, it has seemed to us that these wounds have been taking entirely too much time to heal. The reason for this is that we are dealing here with a wound that is constantly being saturated with infected urine; under these circumstances, it invariably heals more unsatisfactorily than one kept dry and clean. We have, therefore, been trying of late to adopt some means of better drainage of these wounds post-operatively, so as to keep them as dry and free from infection as possible. This, too, is a matter in which there is a great deal of individual effort being done at the present time by different men in different parts of the country.

Of late, we have been trying the suction method of drainage, which, in itself, is not in any sense a new procedure, but which, in conjunction with Dr. Kells, of this city, we have elaborated until we believe we have arrived at a satisfactory plan of procedure. We have been trying the apparatus which we here illustrate and which we would describe more in detail.

In order to work satisfactorily, an apparatus for this purpose must fulfill certain requirements. First of all, it must be simple and easy to work; secondly, it must be painless to the patient: thirdly, it must be capable of taking off all the secreted fluids, regardless of specific gravity or amount, such as may accumulate in wounds of this character; and lastly, it should be as self-

working, simple and automatic as possible. The apparatus illustrated here is simply an adaptation of the Kells' suction pump, to which a clock-work attachment is adjusted, so that the apparatus can be made automatically to suck fluids for a variable length of time at regular intervals. This clock-work attachment can be set according to the requirements of the wound. It can be made to run for a certain period of time as desired, and will automatically stop and start. There is an attachment in the shape of a hand-switch by which the machine can be controlled by the patient, and can be run either continuously or whenever he notices that the secretions are beginning to accumulate. The motor is simple; does not get out of order easily, and requires but a single oiling in twenty-four hours. We have run this apparatus for twenty-four hours on a stretch without the slightest inconvenience to the patient and with perfect drainage during that time. It is still in an experimental stage, having been used in but five cases to date, but so far it has certainly seemed to us to keep the bladder wounds drier, and to shorten the time of convalescence from the usual five to seven weeks down to an average of three to five weeks. In two of our cases, we got complete closure in nineteen and twenty-two days, respectively. The wound also seems to heal more firmly and with less tendency to hernia. As we said before, the machine is still in the experimental stage and it will take some time yet to satisfy us as to the benefits to be derived from it, but certainly, in the wards of the Charity Hospital where the nursing attendance is very limited, this automatic drainage machine has helped us greatly. In some of these cases, we have not had to change the dressings once in seventy-two hours. The motor is practically noiseless and there is no disturbance either to the patient or to anyone who may be sleeping in an adjoining bed.

The way we proceed is as follows: First of all, at the time of operation, we put in the bladder our large-sized drainage tube, which is nothing more than a modified Freyer tube. We have an inner suction tube, which is put inside this large tube, and through which the larger sized clots, if any, may be sucked. This tube will take care of pretty nearly anything that comes out of a bladder. The large tube stays in for forty-eight to seventy-two hours, in fact, until we take out the prostatic pack; after that, a smaller sized tube is introduced into the bladder, and this

is kept in place for two, three or four days, depending upon the rate of healing of the suprapubic wound. At the end of this time, the case is either ready for the penile retention catheter or a smaller sized suction tube. We have not decided yet whether it is best to keep the suction tube in place until the wound has healed to a small-sized fistula, or whether it might not be better to start urethral drainage at the earliest possible moment. The suction tubes can be made of soft rubber, thereby allowing greater freedom of motion with the minimum amount of discomfort to the patient.

In conclusion, we would like to repeat that this drainage work is still in an experimental stage, and we are not positive as to the best procedure on certain points, but so far as our experience has been, it has seemed to us that where it is impossible to get proper nursing, and where for any reason frequent changes of the dressings are not desired, the apparatus fulfills a much-needed use. There is absolutely no danger to the tissues either from the presence of the tube or from the amount of suction exerted upon the tissues, and the patients so far have complained only when the apparatus for some reason was not working, and the urine was not constantly drained. In one or two instances, they have objected to our discontinuing it when the proper moment arose, which seems to us the best kind of proof as to the harmlessness of the apparatus.

We would add, in closing, that we feel convinced that this apparatus may be adapted to all classes of wounds needing regular and steady drainage, either intermittent or continuous, and we would greatly like to lend the machine to any surgeon desiring to try it in cases in which its need seems indicated. So far we have been unable to get any material except the five cases above mentioned.

MUCOUS COLITIS AND ITS TREATMENT.*

By SIDNEY K. SIMON, M. D.,
Assistant Professor of Clinical Medicine, Tulane College of Medicine, New Orleans.

Mucous colitis is a term commonly used to cover an affection of the large intestine, characterized principally by the periodic discharge of quantities of mucus from the bowel with the occurrence of paroxysmal attacks of abdominal pain.

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The exact causation and pathology of the condition is yet a matter of some doubt and controversy. The disease has been described under various different titles from time to time, such as membranous catarrh of the intestines, membranous enteritis, mucous colic, tubular diarrhea, but each of these designations in turn point more particularly to the more or less indefinite clinical manifestations of the disease rather than to the exact manner of its origin.

All authorities are agreed that in the disorder as such, there is no actual inflammatory involvment of the bowel mucosa, and therefore to refer to the condition as an enteritis or a colitis is both inaccurate and misleading. A more exact terminology, and one expressing more truly the underlying basis of the disease would be myxoneurosis intestinalis, as suggested by Von Leube. According to this view, accepted now generally, the so-called mucous colitis is thus merely a neurosis of secretion, affecting the large bowel, whereby through functional disturbances the glandular apparatus of the muscosa concerned with the mucus secretion is stimulated to increased activity.

From the clinical aspects of the disease, many factors would seem to be involved, leading up to this unusual state of perverted secretion. The condition is undoubtedly closely associated in nearly every instance with a strong neuropathic diathesis, so that the claim has been made that this special intestinal disturbance may be but a part picture of a more general constitutional neurosis. A careful analysis of the case histories of the disease, however, will show that, apart from the undoubted neuropathic tendencies usually exhibited, other equally important contributory factors will be found in connection with the etiology. Among such predisposing agencies might be mentioned chronic constipation, chronic dyspepsia in its many protean forms, visceroptosis, chronic appendicitis and pelvic diseases of long standing in women.

Each of these has been championed in turn in the literature depending upon the particular experiences and leaning of the writer. Particular importance is ascribed by all, however, to the co-existence of a constipation of long standing in connection with the course of the disease. Von Noorden is firmly of the belief that the constipation in itself is a potent factor in the causation, exceeding in importance all others. Indeed, a history

of a particularly obstinate constipation can usually be attained extending back a long period before the onset of the typical paroxysmal attacks of the mucous colic. Likewise, preceding the attacks themselves, at times there is noted a specially obstinate condition of the bowels, so that there can be no question of the intimate relationship of the state of the bowel movements with the origin of the disease.

Aside from this, the two cardinal symptoms which stand out most prominently in a clinical way are the evacuation of the accumulated mucus masses and the attacks of abdominal pain. The mucus may present itself either in the form of glairy, gelatinous masses, or, as is more often the case, as membranous shreds or bands. Even complete casts of the lower bowel have been passed and the patients themselves will often wonder at the peculiar shapes and structures which the membranes assume. A similarity with some of the larger intestinal worms is at times striking and, unless care is exercised, may even lead to mistakes on the part of the doctor. The mucus may be discharged along with the stools or just as frequently perhaps, independent of the bowel movements. Under these latter circumstances, its evacuation may be attended with pain of a particularly severe paroxysmal type.

The chemical examination of the mucus secreted in mucous colitis reveals no essential difference to that of ordinary mucus resulting from inflammatory processes. Its physical characteristics, however, are strikingly distinctive. The retention of the mucus in the bowel over comparatively long periods offers at least part explanation for this distinction. Because of the more complete dehydration which ensues, it tends to assume an especially tenacious and sticky character, while the passing of the hard constipated fecal column and scybala over the surface, gives rise, it is thought, to the peculiar membranous structures, so frequently encountered. It is surprising with what difficulty at times the mucus is set free from the bowell wall. I have frequently made note of this fact through the proctoscope and believe it a good point to remember in the differentiation of the disease from true colitis.

The occurrence of pain immediately preceding or accompanying the passing of the mucus is, in this light, not difficult to explain. The pain represents an expression on the part of the

bowel of its efforts to free itself of the accumulated mucous masses. The pain may be in the nature of an aching or boring, or perhaps have the character of a true colic, and may occur in connection with a surface tenderness along any section of the large bowel. Most often, it is centered in the region of the sigmoid, but undoubtedly cases are encountered where the right iliac fossa becomes the main seat of the disturbance.

When a combination such as pain and tenderness occurs in the lower right abdomen, attended perhaps by a degree of muscular rigidity, the similarity to appendix disease becomes very marked. The literature contains several instances of mistakes in diagnosis of this kind, where even surgical procedures had been instituted. I, myself, have the case histories of two such plausible errors of diagnosis in individuals who subsequently came under observation and treatment for attacks of typical mucous colitis.

Under like conditions in the left abdomen, confusion may arise in connection with indefinite lesions in the left tube or ovary or even in the left kidney and ureter. I think it is well to remember that paroxysms of mucous colic are not of infrequent occurrence, especially in the female sex, and that evidences of pain in the clinical picture may be more prominently in the foreground than the excessive discharge of mucus.

TREATMENT.—Many divergent views have been entertained in the past in regard to the most effective method of handling this important and interesting disease condition. The prognosis at best is none too favorable, since we are dealing with a chronic functional neurosis, engrafted upon a type of patient who presents always great therapeutic difficulties. The first step should be directed, of course, towards the removing of any gross pathological lesion, which might serve as the starting point for a reflex neurosis. When visceroptosis is present in connection with the disease, I believe it is the first duty of the physician to institute proper mechanical measures looking to the relief of this disability. Likewise, the presence of a chronic appendicitis or other chronic inflammatory lesions in the lower abdomen, should call for appropriate surgical attention. In addition, it need hardly be mentioned that all procedures which tend in a general way to promote the tone and nutrition of the patient should be afforded a prominent place in the treatment.

The harmful effect of a co-existing constipation has already been pointed out, and I am firmly of the opinion that no material benefit can be rendered the individual with mucous colitis until definite steps are taken to relieve this state. For this purpose, a proper dietetic regime must be ordered. The type of diet which has been found of most service includes those articles of food which leave a large residue of undigested material in the bowel. The patient should accordingly be ordered to reduce the amount of meat and eggs to a minimum and, on the other hand, to eat liberally of the coarser vegetables, fruit, wheat bread and fats. I am in the habit of giving twice a day a half a glass of sweet cream, either with or between meals. The fat in these cases serves the double purpose of stimulating the intestinal peristalsis and of increasing the number of food calories so necessary to the upbuilding of the nutrition.

A point of some importance, I believe, likewise, is the insistence on the part of the doctor that large amounts of water be drunk at intervals during the day. Very many of these patients neglect this important matter and in consequence suffer an unnecessary and harmful depletion of the tissues and secretions in general.

As regards the advisability of rectal irrigations, as commonly employed, I should like to offer some objection to this plan of procedure. I believe much more harm is done by a daily tampering with the lower bowel in this type of patient than the possible good that might be accomplished by the mere washing out of the mucus.

It should be remembered always that the underlying pathology is not of an inflammatory nature, therefore the various astringent and antiseptic bowel flushes ordinarily employed cannot be said to be in order. Even the oil enemata, according to the Fleiner method, I believe are open to the same objection and should be used sparingly, if at all, in this disease. If a mild laxative is needed, in addition to the diet, I see no objection to the use of petroleum oil by mouth or even small doses of cascara. Certainly all drastic purges should be interdicted.

When pain is a prominent symptom, I have found a sedative suppository containing orthoform, belladonna and ichthyol to serve admirably as a means of relief.

PROCEEDINGS OF THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

MINUTES OF THE MEETING.

The Thirteenth Annual Meeting of the American Society of Tropical Medicine was called to order at 10:20 a. m. Tuesday, May 9, 1916, in the Library of the Hygienic Laboratory, Washington, by the President, Dr. Milton J. Rosenau, of Boston.

Dr. Milton J. Rosenau read the president's address, "The Prevention of Tropical Diseases."

Dr. John M. Swan read the report of the Secretary and the report of the Treasurer. It was moved and seconded that the reports be received. Carried. After a correction to the fourth proposition concerning the Journal, which should contain the statement that the members of the Society would receive the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL regularly.

Dr. John M. Swan moved that the fourth proposition concerning the Journal, after it had been corrected, be adopted. Dr. Damaso Rivas seconded the motion. Dr. Isadore Dyer and Dr. Damaso Rivas spoke. The motion was carried.

The President appointed Dr. William F. Snow and Dr. William Krauss a committee to audit the Treasurer's accounts.

Dr. William E. Snow moved that the thanks of the Society be extended to Dr. Isadore Dyer and Dr. Charles Chassaignac for their painstaking work in editing the *American Journal of Tropical Diseases and Preventive Medicine* and their liberal and disinterested work in behalf of the Society's interests. The motion was seconded by Dr. E. R. Stitt. Carried.

Colonel Edward L. Munson, of Washington, read a biographical sketch of Surgeon General George M. Sternberg.

Dr. Damaso Rivas, of Philadelphia, read a paper, entitled "The Thermogenic Agency of the Body Against Infection and Its Bearing Upon Immunity." Dr. Rosenau, Dr. George C. Shattuck, Dr. John M. Swan, and Dr. Rivas spoke.

Dr. Joseph D. Weis, of New Orleans, read a paper, entitled "Observations on Splenomegaly." Dr. Bailey K. Askford, Dr. E. R. Stitt, Dr. William Krauss, Dr. Damaso Rivas, Dr. Rosenau, and Dr. Weis spoke.

Dr. John M. Swan moved that the medal awarded to the Society by the authorities of the Panama-Pacific International Exposition at the Twelfth Annual Meeting be deposited in the Library of the Surgeon General's Office. The motion was seconded by Dr. Isadore Dyer. Carried.

The auditors reported that they had examined the checks, vouchers, and accounts of the Treasurer and found them correct.

The meeting then adjourned.

There were twenty-six members and guests present.

The second session was called to order at 10:10 a. m. Wednesday, May 10, 1916, by the President, Dr. M. J. Rosenau.

Dr. Seale Harris, of Birmingham, read the paper by Dr. Frederick L. Hoffman, of Newark, entitled "The Eradication of Malaria."

Dr. C. C. Bass, of New Orleans, read a paper, entitled "Recent Observations in the Control of Malaria in Heavily Infected Countries." Dr. John M. Swan, Dr. Henry R. Carter, Dr. Edward J. Wood, Dr. Damaso Rivas, Dr. Nathan Barlow, Dr. William Krauss, Dr. Seale Harris, Dr. L. O. Howard, and Dr. Bass spoke.

During the discussion the President, who had to leave the meeting, asked Dr. Henry R. Carter to take the chair.

Dr. William H. Seeman, of New Orleans, read a paper, entitled "A Statistical Study of Leprosy in Louisiana."

Dr. Damaso Rivas, of Philadelphia, read a paper, entitled "The Bilateral Distribution of the Lesions of Leprosy in Relation to the Bacteric Nature of the Disease."

Dr. James A. Honeij, of Boston, read a paper, entitled "The Bone Changes in Leprosy."

Dr. Ralph Hopkins, of New Orleans, read a paper, entitled "Observations on the Treatment of Leprosy With Chaulmoogra Oil." Dr. Isadore Dyer, and Dr. Seeman spoke.

There were forty-five members and guests present.

The Society then adjourned.

The third session was called to order at 10:00 a. m. Thursday, May 11, by the President, Dr. Milton J. Rosenau. There were thirty-one members and guests present.

The following candidates were elected active members:
Dr. W. A. Korn, San Francisco.
Dr. George M. Converse, San Francisco.
Dr. George W. McCoy, Washington.
Dr. W. C. Billings, San Francisco.
Dr. J. R. Hurley, San Francisco.
Dr. C. C. Pierce, San Francisco.
Dr. William H. Seeman, New Orleans.
Dr. Foster M. Johns, New Orleans.
Dr. Nathan Barlow, St. Louis.
Dr. Houston B. Hiatt, High Point, N. C.
The following officers were elected:
President, Dr. Bailey K. Ashford, San Juan.
First Vice-President, Dr. C. C. Bass, New Orleans.
Second Vice-President, Dr. Henry J. Nichols, San Francisco.
Secretary, Dr. John M. Swan, Rochester.
Assistant Secretary, Dr. Allen J. Smith, Philadelphia.
Treasurer, Dr. John M. Swan, Rochester.

Councillors to serve two years: Dr. Weston P. Chamberlain, Plattsburg Barracks; Dr. Philip E. Garrison, New York City; Dr. W. C. Rucker, Washington.

Dr. George W. McCoy and Dr. N. E. Wayson, of Washington, gave a demonstration of the plague-like diseases of rodents and its causative agent, bacillus tularensis.

Dr. Harold L. Ernest, of Boston, read a paper by Dr. S. Burt Wolbach, of Boston, entitled "Rocky Mountain Spotted Fever."

Dr. Brayton H. Ransom, of Washington, read a paper, entitled "The Occurrence in the United States of Certain Nematodes of Ruminants Transmissible to Man." Dr. Charles Wardell Stiles, Dr. E. R. Stitt, and Dr. Brayton H. Ransom spoke.

Dr. Nathan Barlow, of St. Louis, read a paper, entitled "Prevalence and Pathogenicity of Trichomonas Intestinalis in St. Louis." Dr. Charles Wardell Stiles, Dr. Frederick H. Morehart, of Washington, by invitation; Dr. Milton J. Rosenau, Dr. Brayton H. Ransom, Dr. Sidney K. Simon, Dr. William Krauss, and Dr. Barlow spoke.

The President then asked the President-elect, Dr. Bailey K. Ashford, to take the chair.

Dr. John B. Elliott, Jr., of New Orleans, read a paper, entitled "Clinical Report of a Case of Diarrhea Apparently Due to

Flagellate Parasites." Dr. Nathan Barlow, Dr. Bailey K. Ashford, Dr. Brayton H. Ransom, Dr. Charles Wardell Stiles and Dr. Elliott spoke.

Dr. Sidney K. Simon, of New Orleans, read a paper, entitled "Recent Experience With Ipecac and Its Alkaloids in the Treatment of Amebiasis." Dr. Charles Wardell Stiles, Dr. Bailey K. Ashford, Dr. Nathan Barlow, Dr. Henry R. Carter, Dr. John B. Elliott, Jr., and Dr. Simon spoke.

The followinging papers were read by title:

A Biographical Sketch of Carlos J. Finlay, by Dr. Aristides Agramonte, of Havana.

Investigations on the Prevalence and Clinical Features of Bilharziosis in Porto Rico, by Dr. I. Gonzales Martinez, of San Juan.

The Etiology of Dysentery, by Dr. Richard P. Strong, of Boston.

Pellagra, by Dr. Joseph F. Siler, of Washington.

Three-Day Fever, by Dr. George C. Shattuck of Boston.

The Epidemic of Dengue in Porto Rico in 1915, by Dr. W. W. King, of San Juan.

Clinical Types of Dengue in Porto Rico in 1915, by Dr. W. V. King, of San Juan.

A System of Peripatetics, by Dr. E. S. Goodhue, of Holualoa.

It was moved and seconded that the thanks of the Society be tendered to Surgeon General Rupert Blue for the courtesies of providing a meeting place for the Thirteenth Annual Meeting and for the necessary attendance at the meeting. Carried.

The Society then adjourned.

(Signed) JOHN M. SWAN, *Secretary.*

PRESIDENT'S ADDRESS.

THE PREVENTION OF TROPICAL DISEASES.*

By MILTON J. ROSENAU, M. D., Boston.

I appreciate the honor of being the president of the American Society of Tropical Diseases and am mindful of the responsibility which now devolves upon me to deliver a presidential address. I have chosen as my subject "The Prevention of Tropical Diseases," and it is my main purpose to consider certain features in the prevention of these diseases within and without

*Read at the Thirteenth Annual Meeting of the American Society of Tropical Medicine, held in Washington, D. C., May 9, 10, 11, 1916.

their natural habitat; also how to prevent the dragging of such infections from their hot-beds to our more favored climes.

First of all, we should have a clearer understanding as to just what diseases are tropical. Here we meet our first difficulty, for the diseases limited strictly to the region between the Tropic of Cancer and the Tropic of Capricorn are relatively few in number and comparatively unimportant.

Many infections, such as malaria, are most intense and most deadly, as well as most prevalent, under the vertical sun, but malaria may be found on both sides of the equator as far as the arctics. Yellow fever is properly regarded as the type of a tropical disease, yet severe epidemics have occurred in New England and in Spain. Plague, cholera, dysentery, and many other diseases are severe in the tropics but also occur as devastating epidemics in temperate and even in cold regions. Leprosy, always regarded as a tropical disease, once prevailed extensively throughout Europe and many lepers are still found in Norway and other cold countries.

On the other hand, we have many diseases that ordinarily are not considered as tropical, which, however, play unusual havoc in warm countries, such as, for example, tuberculosis, pneumonia, and typhoid fever.[1]

Tuberculosis is exceedingly prevalent in tropical countries, due, no doubt, to close contact between children and adults under unhygienic surroundings, aided by the enervating influence of heat and the sapping of resistance by faulty diet. When I was in Santiago de Cuba, I made a study of the vital statistics of that unhappy city, and discovered that for a period of years before the Spanish-American War there were many more deaths among the native population from tuberculosis than from yellow fever, although Santiago had been an endemic focus of yellow fever for many years. Despite this situation, much attention was given to yellow fever and none at all to tuberculosis.

We think of pneumonia as a cold weather disease because the seasonal curve of prevalence in temperate climates rises in winter and falls in summer. Nevertheless, pneumonia may prevail with great intensity and fatality in the tropics under certain conditions. Thus in the Canal Zone, on the Rand, and in other

(1) Diphtheria, measles, and scarlet fever are less severe in tropical regions than in the changeable climates of the temperate zone.

tropical localities where the susceptible native population is brought into close contact with the infection, the disease is serious and the mortality high, despite climatic conditions which are ordinarily regarded as unfavorable for the spread of pneumonia. The inhabitants of Vera Cruz dread going to the City of Mexico for fear of contracting pneumonia, while the inhabitants of the table land fear going to the tierra calienta on account of the fear of contracting yellow fever or malaria. Gorgas did much to control pneumonia on the Canal Zone by "scattering" the workmen in separate houses; that is, taking them out of barracks where close personal contact favors the spread of the infection. The same principles applied to our city tenement population could lessen the prevalence of pneumonia and other diseases spread by contact infection. Better housing is one of the crying needs of our civilized centers.

When I was in New Orleans in 1891, it was said among the medical profession that typhoid fever did not exist in that city, and furthermore, it was the prevailing opinion that typhoid fever was not to be found in tropical and sub-tropical regions. The disease was mistaken for malaria. This same error prevailed up to the time of the Spanish-American War, when this mistake played serious havoc with one-third of the officers and men mobilized to take part in that war. With improved methods of diagnosis, we have discovered that typhoid fever is very prevalent in the tropics. Typhoid fever, is in fact, a warm weather disease, even in cold climes. Its normal curve of greatest prevalence is during the summer. In this regard it is like cholera, dysentery, infantile diarrheas, and other intestinal infections which have their nomal curves of prevalence during the warm months. In the United States, there is much more typhoid fever south of Mason and Dixon's Line than in the north. In truth we must not lose sight of the fact that our southern states are in the sub-tropical zone and present many of the problems of the tropics. While intestinal infections may be regarded as having their home in the tropics, they are to be found at any time and any place as students of epidemiology are well aware. It is, perhaps, a new thought to regard tuberculosis, typhoid fever, and pneumonia as tropical diseases, yet they are just as truly tropical as many diseases considered such by Manson, Scheube, Castellani, Chalmers, and other students of tropical medicine.

Our recently gained knowledge of pellagra and beriberi teaches us the lesson that these diseases of deranged metabolism caused by faulty diet may occur in any climate. Their prevalence in warm countries is merely an expression of the unbalanced diets which are much more common in hot countries than in colder or variable climates. Faulty diet, which is such a frequent and serious hygienic question, is much commoner in tropical than temperate climates for reasons that are well known to those who have had experience in tropical regions. It is quite clear that a better ration for the native population in many tropical lands is one of the most important reforms necessary to prevent the diseases directly due to unbalanced diets. Furthermore, a better ration would help to check the prevalence of diseases indirectly brought on or aggravated by poor nutrition. Hence, an improved dietary is one of the most important factors in the prevention of many tropical diseases. The collateral good which would be accomplished by introducing a more varied and better balanced diet for millions of people in the tropical belt would not only diminish and even eliminate such diseases as pellagra and beri-beri, but also favorably influence the prevalence of tuberculosis and many other infections.

Our experience with hook-worm and other animal parasites teaches us that we have more than our share of these infections in our own south land. The prevention of these infections involves the hygienic reformation of the sanitary habits and education of nations. Furthermore, in any climate, it only requires unsanitary conditions and imperfect personal hygiene to favor the spread of relapsing fever, Malta fever, typhus, plague and other diseases ordinarily regarded as tropical.

It seems fair then to assume that tropical diseases are those which have their home in the tropics, are constantly endemic there, spread more rapidly in warm than in cold weather, and hence are more prevalent, more virulent and more fatal in the tropics than elsewhere. However, it must be clear that there is no sharp distinction between the diseases of the tropics and the diseases of temperate climates, except in certain strictly local parasitic infections, such as, verruga, tropical sores, uta, sleeping sickness, etc. The diseases ordinarily classified as cold weather diseases may in fact be especially severe in the tropics, and vice versa.

On the other hand, the influence of tropical medicine upon the prevention and cure of diseases of temperate climates has been far-reaching. We pay willing tribute to many rewardful investigations of tropical infections which have helped the science of medicine at large. Much of our knowledge of the modes of transmission, prevention, and even cure of infections in temperate climes is based upon studies made upon tropical maladies. There are no parallels of latitude in science. The solution of many pathologic puzzles of the tropics has unlocked the door of opportunity in temperate and arctic regions. While the progress has been commendable, all the problems have not been solved—there is still much to be done.

The fact that there is a greater abundance of parasites in warm moist climates accounts in part for the great prevalence and great variety of parasitic diseases found in the tropics, but a still greater cause is found in defective sanitation and hygiene. Thus, we find in the temperate regions that the incidence of parasitic diseases affecting human beings is relatively low, whereas infections of the lower animals are very common. Furthermore, persons living under good sanitary conditions and practising personal cleanliness have fewer infections than persons who fail to practise the teaching of modern hygiene—even in the same community. The prevalence of disease, therefore, in the tropics is not solely due to climate, but is largely an expression of primitive and backward hygiene. Hence, the sanitarian is convinced that the prevention of the diseases of the tropics can best be accomplished by raising the level of civilization and improving the conditions of life among the nations in the tropical belt.

This may best be done by better use of the land, which is sorely neglected in most tropical regions. Improvements in agriculture would furnish a more varied diet, so much needed; it would favor prosperity which is the basis of public health and individual health in all climates. Better use of the land serves many other useful purposes. First of all, it is the best way of clearing a region of parasites and their intermediate hosts. Malaria and other infections may be controlled by improvements in the agricultural conditions of a region. Cultivation of the land and subsoil drainage to improve the crops have eliminated malaria from the most fertile sections of our

middle West. A fertile soil, well tilled, and thus kept "clean" and drained is a sanitary blessing. The encouragement of agriculture in the tropics, which is the most productive soil in the world, would result in a betterment of economic, social, and health conditions. The prevention and eradication of many tropical diseases has become largely an economic and social question. Picture to yourself the effect upon the health of the Canal Zone if the land for ten or more miles on both sides of the Canal were under continuous cultivation. This would bring with it good roads, ditching and draining, better habitations, schools, prosperity and an endless chain of developments. Science has pointed the way and it remains for society to apply the remedy.

The question then arises whether the tropics even when freed of unnecessary diseases, offers a suitable place for the permanent settlement of European races, that is, whether mental and physical vigor would be maintained upon a high level of efficiency, despite the enervating effects of the heat. It would take a prophet to give a final answer to this question, but this much, however, is plain—the chance of such an experiment succeeding is infinitely better now than at any time in the world's history.

It is not alone the diseases of man that concern the student of tropical medicine, for the diseases of domestic animals deserve our careful consideration. Man's dependence upon domestic animals is nowhere better illustrated than in the Gambia. The impossibility of keeping horses and cattle alone keeps that trypanosome infected region backward. Furthermore, diseases of plants are of great economic importance and of some sanitary significance.

This brings us to the question "What is the basis of our interest in the tropics?" It is not merely to protect ourselves from diseases which are brought to us from the tropics; it is not merely to protect our fellowmen from preventable infections in the tropics. It is rather to apply the discoveries in tropical medicine to the utilization of the great sources of energy and materials which go to waste at the present time. The riches of the tropics far outweigh all the other regions of the world. These treasures have heretofore remained just beyond our reach —not because the climate in the tropics is hot, not because the distances are great, not for lack of adventure and spirit, but

solely on account of infections which have made the development of the tropics always hazardous and at times impossible.

The conquest of disease has made the construction of the Panama Canal possible, as well as other great enterprises such as large rubber, fruit and sugar plantations which are now established on a large scale. Every ton of rubber need no longer cost the life of one man.

The development of the tropics for the betterment of man living in all climates is the sole object in view. The world needs the products of the tropics for its food supply. The overcrowding of nations requires the land in the tropics for its surplus population and energy. The successful development of the tropics then would be one of the means to delay—if not to prevent—wars.

How can we protect our own more favored climates against infection with parasites which are found in such great numbers in the warm, moist areas of the tropical zones? How shall we prevent such diseases leaving the tropics? There are several methods, some of which have already been indicated. The chief of these, of course, is to improve the conditions of life in the tropics so that these diseases may be suppressed, controlled, and finally eliminated at their source, and in that way cease to be a menace to neighboring nations. That this will take a long time must be evident. Meanwhile, we may protect ourselves by a system of quarantine.

Disease knows no geographical boundaries. Parasites take no heed of nationality or race. The communicable diseases travel along the routes of human intercourse. Contagium accompanies trade and travel. In the vast majority of instances, infection is dragged from one country to another in persons, rather than on things. In other words, human intercourse, which brings so many blessings, also carries in its wake a trail of dangers. These dangers are no less real because they are insidious and due to an invisible foe. Many more persons in the world's history have died of bacteria than of bullets. The encouraging feature in the situation is found in our growing knowledge of infectious diseases, their modes of spread, and means of prevention. When the historian of the future writes an account of this epoch in which we are now living, he will record unparalleled advances in almost every field of human

endeavor. One achievement, however, will stand out clearly above the rest, namely, the conquest of disease.

We are now especially interested in the development and problems of our own tropical Central American regions. Intercourse between the Pan-American States is growing and is bound to increase in volume and in intimacy. With this interchange of products and people will come a corresponding interchange of infections. Fortunately, our methods of quarantine and sanitation have reached such a point of precision that we can guard against the introduction of most exotic plagues. Quarantine, however, is only a makeshift and is not the true method of prevention. Quarantine is, in fact, an admission of imperfect sanitation. A city free of Stegomyia mosquitoes can laugh at yellow fever, and needs no quarantine; a city with a clean water supply, well protected, need fear no water-borne epidemic of typhoid fever or cholera; a rat-proof city will not become an endemic focus of plague. The "City Beautiful" must be the "City Clean."

Monumental public buildings, beautiful parks, art galleries, libraries, and handsome boulevards do not make the "City Beautiful." The sanitarian looks deeper than those outward expressions of prosperity and appreciation of the fine arts. He requires a clean city in the sense of biological cleanliness—free of rats, fleas, vermin and dust; good houses, clean from garret to cellar; tidy back yards, in short, cleanliness of the food we eat, the water we drink, the air we breathe. Cleanliness of home and surroundings is the foundation stone of an enduring structure in preventive medicine. The greatest blessing to man is health, and this cannot be achieved without intelligent effort and the expediture of time and money. "The healthy man is the most meritorious product of nature so far as he goes. A soul in right health is the blessedest thing this earth receives of heaven."

Again for emphasis, sanitation is the cure for quarantine. Quarantine at best is an acknowledgment of imperfect sanitation. It is endured as a necessary evil, just as jails and reform schools and other places of detention are found necessary by society to quarantine social diseases. The lesson which America has taught the world in the case of yellow fever is instructive and inspiring and it is now quite clear that it would be practical

to render yellow fever extinct. Compare the present day attitude of Havana and our own southern litoral with the days of shot-gun quarantine. Then the dread of yellow fever hindered the progress of the fairest portion of our country with burdensome restrictions to trade and travel. We now enjoy the fruits of the scientific researches of Reed, Carroll, and Lazear, and the practical application of these discoveries by Gorgas, Carter, White and Strong.

The story of yellow fever teaches the lesson that the prevention of tropical diseases rests primarily upon scientific research. Neither the necessity nor the importance of investigation need be emphasized to this audience, but they must be mentioned, for in proportion to their importance there is a dearth of research in the field of tropical medicine. It is humiliating that our great country has not more generously fostered institutes of tropical medicine, and schools for the study of these diseases corresponding to those found in some European countries. America deserves to have an institute of tropical medicine where continuous investigation, both in the tropics and at home, would be fostered and favored. Rewardful results would surely be obtained. Our seaports are quite as favorable for such studies as Liverpool or Hamburg. America's contributions to tropical medicine have been noteworthy. We are proud of the names of Reed, Carroll, Lazear, Rickets, Sternberg, Carter, Goldberger, Gorgas, Theobald Smith, Strong, Wolbach, Bass, Craig and many others. I am here reminded of a remark made by a distinguished English scientist a few years ago. When he was told that pellagra was discovered in America, he said, "Oh, I am so glad, for now we shall learn something about that disease!" This prediction came true in a very few years through the researches of Goldberger and others.

In view of the fact that research is so important in the prevention of tropical diseases, as well as for social and economic betterment, it seems to me that this Society for Tropical Diseases should not be satisfied with a loose-jointed organization which assembles at a casual meeting-ground once a year. It should not be simply a clearing house for the discussion of subjects that interest its members, but it could well take a broader vision of its purposes and include constructive work along the lines indicated. We should set out especially to en-

courage better sanitation of tropical ports and places, and to accomplish the establishment and endowment of an American Institute for the Study of Tropical Diseases.

SECRETARY'S REPORT.

The Council met Monday, May 8, 1916, at 9 p. m. The President, Dr. M. J. Rosenau, was in the chair. There were present Dr. Milton J. Rosenau, Dr. Isadore Dyer, Dr. John M. Swan and Dr. C. C. Bass, by invitation.

The following candidates were recommended for election to active membership:

Dr. W. A. Korn, San Francisco.
Dr. George M. Converse, San Francisco.
Dr. George W. McCoy, Washington.
Dr. W. C. Billings, San Francisco.
Dr. J. R. Hurley, San Francisco.
Dr. C. C. Pierce, San Francisco.
Dr. William H. Seeman, New Orleans.
Dr. Foster M. Johns, New Orleans.
Dr. Nathan Barlow, St. Louis.
Dr. Houston B. Hiatt, High Point, N. C.

The following members were recommended for election as officers for the ensuing year:

President, Dr. Bailey K. Ashford, San Juan.
First Vice-President, Dr. C. C. Bass, New Orleans.
Second Vice-President, Dr. Henry J. Nichols, San Francisco.
Secretary, Dr. John M. Swan, Rochester.
Assistant Secretary, Dr. Allen J. Smith, Philadelphia.
Treasurer, Dr. John M. Swan, Rochester.

Councillors to serve two years: Dr. Weston P. Chamberlain, Plattsburg Barracks; Dr. Philip E. Garrison, New York; Dr. W. C. Rucker, Washington.

Dr. Isadore Dyer presented a statement of the financial condition of the *American Journal of Tropical Diseases and Preventive Medicine* in which it was shown that the journal had been financially a losing property. He presented four propositions for its future and the future of the transactions of the Society:

1st. That an annual assessment of the members of the Society be made to cover the deficit.

2nd. That the Journal be reorganized as a stock company with the members as stockholders, paying for their stock in annual installments.

3rd. That the Society take over the Journal as its property without cost and agree to continue its publication.

4th. That the Transactions of the Society be published as a department of the *New Orleans Medical and Surgical Journal*, maintaining the name *American Journal of Tropical Diseases and Preventive Medicine*, the official organ of the American Society of Tropical Medicine, and that 200 bound reprint volumes of the Transactions be furnished the Society at the end of the year, the Society to pay $450 for this service for the ensuing year, viz., July, 1916, to July, 1917.

The Council recommends that the Society accept the fourth proposition.

The dues for 1917 were fixed at $4.00.

The Council recommends the following amendment to the By-Laws:

> We the undersigned move that Article III of the By-Laws of the American Society of Tropical Medicine be amended by striking out the words, "The President and the Secretary shall be ex-officio members of the Council." By striking out the words, "In 1905 three Councillors shall be elected for two years and two Councillors for one year. Thereafter each Councillor shall be elected for two years," and substituting the words, "In 1917 one councillor shall be elected to serve one year, and one to serve two years. In 1918 one Councillor shall be elected to serve three years, one to serve four years and one to serve five years. Thereafter each Councillor shall be elected to serve five years, so that the article shall read as follows:
>
> Article III. The officers shall consist of a President, two Vice-Presidents, an Assistant Secretary, a Secretary, a Treasurer, and a Council of five members. They shall perform the customary duties of such officers.
>
> The Council shall have general supervision of the affairs of the Society, and shall meet from time to time as they determine. The officers shall be ex-officio members of the Council. In 1917 one Councillor shall be elected to serve one year and one to serve two years. In 1918 one Councillor shall be elected to serve three years, one to serve four years and one to serve

five years. Thereafter each Councillor shall be elected to serve five years.

In case of death or resignation of any officer or Councillor of the Society, the Council shall be empowered to fill such vacancy until the next annual meeting.

(Signed) THOMAS H. FENTON.
ISADORE DYER.
JOHN M. SWAN.
M. J. ROSENAU.

The following resignations were accepted:

Dr. Elmer S. Tenney, Dr. W. W. Keen, Dr. L. L. Seaman, Dr. S. D. Risley, Dr. Roger S. Morris and Dr. J. Edward Austin.

The Council voted to hold the next annual meeting in the same place in which the meeting of the American Medical Association will be held.

Membership: On June 1, 1915, the membership of the Society was 164; 112 active, 35 honorary and 17 corresponding. At the Twelfth Annual Meeting 12 active members were elected and one was dropped for non-payment of dues. During the year six active members have resigned, Dr. Elmer S. Tenney, Dr. W. W. Keen, Dr. L. L. Seaman, Dr. S. D. Risley, Dr. Roger S. Morris and Dr. J. Edward Austin. Two honorary members have died, ex-Surgeon-General George M. Sternberg and Dr. Carlos J. Finlay, so that on May 1, 1916, the membership of the Society is composed of 117 active, 33 honorary and 17 corresponding, a total of 167.

At the ninth meeting of the Congress of American Physicians and Surgeons held in Washington in May, 1913, the American Gynecological Society presented to the other branches of the Congress an identical resolution requesting the appointment of two or more delegates to co-operate in forming a national organization to conduct educational propaganda regarding the prevention and cure of cancer. The Gynecological Society had just adopted the report of its committee which had been at work on this problem for a year or more previously, and had recommended that a special society should be established with the sole purpose of conducting this much-needed campaign of education and the collection of data on a nation-wide basis and on a gen-

eral plan similar to that of the National Association for the Study and Prevention of Tuberculosis. In preparing its report and recommendation, the committee of the Gynecological Society had secured the interest and promised support of a group of lay citizens of New York, five of whom (Messrs. John E. Parsons, V. Everit Macy, James Speyer, Thomas L. Lamont, and George C. Clark) had guaranteed $5,000 toward the first year's expenses of the proposed organization, but solely on condition that the project be approved not only by the Gynecological Society, but the profession generally.

A majority of the constituent societies of the Congress promptly responded to the suggestion of the Gynecological Society and delegates were appointed from the following societies: American Dermatological Association, American Surgical Association, American Laryngological Association, American Otological Society, American Association of Genito-Urinary Surgeons, American Gynecological Society, American Association of Pathologists and Bacteriologists, American Orthopedic Association, American Opthalmological Society and American Neurological Association.

These delegates were invited to a meeting at the Harvard Club in New York City on May 22, 1913, at which time the American Society for the Control of Cancer was duly organized and the following declaration of its design and scope embodied in the constitution:

"To disseminate knowledge concerning the symptoms, diagnosis, treatment, and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto."

The purpose of the Society as just stated prescribes two main lines of activity: (1) a campaign of public and professional instruction, and (2) the collection of statistical data. Experimental research, the support of hospitals or clinics, and the care and treatment of individual patients are not contemplated. In extending its influence and carrying on its work the Society necessarily devoted a large share of its direct efforts to securing the interest of other organizations and forces which are in a position to render assistance in local fields. In the months immediately following the formation of the Society, under the auspices of this Congress resolutions of endorsement were adopt-

ed by the American Medical Association, the Clinical Congress of Surgeons, the Western Surgical Association, the Southern Surgical and Gynecological Association, and many state and local medical societies. The government of the Society is vested in a Board of Directors which numbers 66 members. The direction of the work in detail is delegated to an Executive Committee of thirteen directors. The professional members of the Board act in conjunction with the Executive Committee as an Advisory Council which formulates the general policies of the Society. Branch committees of the Society are formed in the several states and cities, not as independent local organizations, but as integral parts of the single National Society. The Society endeavors to have the more progressive health officers devote a proportionate share of attention to cancer, and the national office undertakes to furnish data, statistics, and special articles procured under the supervision of the appropriate committees, for local use in the name of the board of health. The Society, therefore, offers all possible co-operation and assistance to state and county medical societies in providing literature and speakers, and to the various medical journals in publishing appropriate articles. Systematic effort is made to promote the instruction of nurses regarding the earlier phases of malignant disease and predisposing conditions, in order that they may be adequately prepared to advise people, especially women with whom they come in contact in the course of their duties, to seek professional attention in time. A series of special articles for nurses has been published, meetings for nurses have been arranged, all the leading schools of nursing in the country have been urged to include in their courses lectures on the early signs and symptoms of cancer, and opportunities are sought to present the subject at the annual meetings of state and national organizations of nurses, a number of which have recorded their endorsement of the purpose and methods of the Society. The field workers of charity organization societies have similar opportunities to advise people who do not ordinarily read newspapers and educational books and pamphlets. The National Office has, therefore, circularized several hundred of the larger charity organization societies in the various states, seeking their interest and co-operation in holding public meetings and in arranging for the special instruction of the members of their working forces. The

work of the Society has been brought to the attention of the national and state federations of women's clubs, and the appropriate committee officials have been circularized in order to secure their co-operation in suggesting this topic to local clubs. As a result women's clubs in many states and cities have frequently taken the lead in arranging public meetings and in providing lectures in their regular study programs. The co-operation of the leading insurance companies is sought not only in respect to statistical investigations, but for the distribution of educational literature. Many of the larger industrial, commercial, and transportation companies have been offered assistance in providing speakers and circulars, or suggestions for the preparation of special literature. By direct effort and through its local committees and various other agencies already referred to, the Society stimulates the publication of carefully considered newspaper articles. It has published for general distribution to the public a number of leaflets giving in simple language the elementary facts about the disease. To inaugurate work in each of the more important cities, the co-operation of professional, civic, and religious forces is secured in arranging a general public meeting at which recognized experts may discuss the various phases of the cancer problem. A Statistical Advisory Board has been formed, which includes thirty members. At the suggestion of the Society the Director of the United States Census has ordered the publication of a special report on the cancer mortality of 1914 which is now in press and will constitute one of the most important statistical studies of this disease so far made under the auspices of any government. The Society has also undertaken the collection and study of records of operations for cancer in numbers approximately as great as those represented in the national mortality statistics. The committee on statistics has also prepared a series of more detailed blanks, one for each principal type of malignant disease, on which to record the full history of cases as a basis for careful study of etiological factors. These forms have been put into experimental use, and when perfected will be offered for use in a number of the larger hospitals in the endeavor to bring out important factors surrounding the occurrence of cancer in the individual, in the family, and in the community.

Respectfully submitted,

(Signed) JOHN M. SWAN, *Secretary.*

SURGEON GENERAL GEORGE M. STERNBERG, IN MEMORIAM.*

By EDWARD L. MUNSON, Lt. Col. Medical Corps, U. S. A.

It is with a mingled sense of melancholy pleasure that the writer undertakes a brief summary of the broad achievements, useful service and sterling worth of General Sternberg, for it was his duty to serve as a member of the official family of the latter during the trying period following the cessation of hostilities with Spain and including the Philippine insurrection.

As a chief in war time, the great abilities of General Sternberg were to be respected. He inherited conditions for which he was in nowise responsible, and which higher authority, though appealed to, would not furnish the means of preventing. That General Sternberg appreciated in advance most of the faults and difficulties encountered in the Spanish War is personally known to the writer from long and confidential association. He did all that the means afforded which were provided him.

As a scientist, he, in his long career, brought great fame to the Medical Corps. He embodied its scientific ideals, and he brought many of these ideals to accomplishment. He was a large contributor to medical science, the Library of the Surgeon General's Office having on file no less than 142 separate books and articles from his pen. Very many of these were based on his own work, and represented notable additions to the advance of medical and scientific progress of the time. He was a pioneer, who blazed the trail into many new fields of thought where others followed.

Of clean and lofty purpose, kindly nature and almost womanly sympathy, he was a true friend. The writer will always hold the personal association with General Sternberg, which he enjoyed, in grateful remembrance. In his sense of fairness and even justice, his standard was of the highest. He played no favorites. He leaned backward in his effort not to be influenced by personal preference. When it came to official business, he had neither friends to reward nor enemies to punish. A square deal, an equal chance for all, a further opportunity for those who took advantage of those already given them—this was his code.

The following is taken from the illuminated brochure issued

*Read at the Thirteenth Annual Meeting of the American Society of Tropical Medicine, held in Washington, D. C., May 9, 10, 11, 1916.

on the occasion of the complimentary banquet tendered General Sternberg, by prominent citizens of Washington and celebrated national characters, on his seventieth birthday:

George Miller Sternberg: The subject of this sketch came of good stock; he was born June 8, 1838, at Hartwick Seminary, Otsego County, New York. His father, the Rev. Levi Sternberg, A. M., D. D., a Lutheran clergyman, for many years principal of Hartwick Seminary, New York, was the youngest son of John Sternberg, a farmer, who inherited the family homestead in the town of Seward, Schoharie County, New York, where his ancestors were among the early German settlers (1703) from the "Palatinate." John Sternberg's father, Nicholas Sternberg, was a member of the "Committee of Safety" in Schoharie County during the Revolutionary War, and several of his uncles or brothers (?) were in the army.

His mother, Margaret Levering (Miller) Sternberg, was the eldest daughter of Rev. George B. Miller, D. D., for many years professor of Theology in Hartwick Seminary, a Lutheran Theological Seminary.

George M. Sternberg was the oldest of a family of ten children. His early education was obtained at Hartwick Seminary. At the age of sixteen he commenced teaching school at New Germantown, N. J., and became self-supporting. His record as a schoolmaster is of a quiet reign. Thoroughness, general good will and regret at his departure are traces that still remain to his credit. Having decided to study medicine, at the age of nineteen he entered the office of Dr. Horace Lathrop at Cooperstown, N. Y., and subsequently attended the College of Physicians and Surgeons, New York, a wealthy relative of his mother's advancing the money for his professional education, which money was subsequently repaid. He graduated as M. D. in the class of 1860, and commenced the practice of medicine in Elizabeth City, New Jersey.

Military History.—At the outbreak of the Civil War Dr. Sternberg passed the examination for the Medical Corps in a class of twenty-one, and was appointed Assistant Surgeon, United States Army, May 28, 1861. Was assigned to duty with the Third United States Infantry. Was with this regiment in the first battle of Bull Run. Remained on the field with the wounded and was taken prisoner. Refused to take parole not to serve against the Confederate States during the

continuance of the war, but gave a parole not to attempt to escape for five days. After the expiration of this parole he escaped from Fairfax Court House, Virginia, and reached Washington the following day. Reported at once for duty with regiment. Continued on duty with Third United States Infantry until the Army of the Potomac retreated from in front of Richmond to Harrison's Landing, Virginia. Was under heavy fire while caring for the wounded in the battles of Gaines Mill and Malvern Hill. Operated under fire at Malvern Hill while the enemy was advancing to attack the position occupied by our troops. Was taken sick with typhoid fever while at Harrison's Landing and was sent North on a Government transport. Suffered a severe attack of delirium, etc. Upon recovery was assigned to duty as executive officer of the United States General Hospital at Portsmouth Grove, Rhode Island (2,200 beds); with General Bank's expedition, and assistant to the medical director, Department of the Gulf, to January, 1864; in office of medical director, Columbus, Ohio, and in charge of United States General Hospital at Cleveland, Ohio, to July, 1865; with the Thirteenth United States Infantry, Jefferson Barracks, Mo., to April, 1866; post surgeon at Fort Harker, Kans., to October, 1867 (cholera epidemic); at Fort Riley, Kans., and in the field from April, 1868 to 1870 (Indian campaign); Fort Columbus, New York Harbor, to May, 1871 (yellow fever epidemic); Fort Hamilton, New York Harbor, to June, 1871; Fort Warren, Boston Harbor, Mass., to August, 1872; ordered to Department of the Gulf, July 22, 1872; acting medical director, New Orleans, La., to October, 1872; post surgeon, Fort Barrancas, Fla., to August, 1875 (epidemic of yellow fever in 1873 and 1875); on sick leave to May, 1876; ordered to Department of the Columbia, May 11, 1876; attending surgeon, Fort Walla Walla, W. T., to May, 1879; in the field, Nez Perces expedition, 1877; on special duty with National Board of Health from June, 1879, to August, 1881, (member of Havana yellow fever commission, 1879); ordered to Department of California, August 10, 1881; post surgeon, Fort Mason, Cal., to May, 1884; attending surgeon and examiner of recruits at Baltimore, Md., to October, 1890; in charge medical purveying depot, San Francisco, Cal., to February, 1892; attending surgeon, New York City, to May, 1893.

Appointed Surgeon-General United States Army, May 28, 1893. Retired for age, June 8, 1902.

Brevet Commissions and "honorable mention" in official communications. Captain and Major U. S. A., "for faithful and meritorious services during the war." Lieutenant-Colonel "for gallant service in performance of his professional duty under fire in action against Indians at Clearwater, Idaho, July 12, 1877.

War of the Rebellion—Official Records.

(Series I, Vol. XI, Part II, Report of Brig. Gen. George Sykes, U. S. A., commanding second division, of the battle of Gaines's Mill, engagement at Turkey Ridge, and battle of Malvern Hill.)

"Dr. Sternberg added largely to the reputation already acquired on the disastrous field of Bull Run." (Op. Cit., p. 352).

Extract from letter of the Surgeon-General U. S. A., to the Honorable the Secretary of War.

War Department, Surgeon-General's Office,
Washington, D. C., Nov. 12, 1875.

* * * Assistant Surgeon Sternberg has since his appointment (May 28, 1861) served in the field during the war; * * * from May 31, 1868, to December 7, 1868, chief medical officer of the expedition serving south of the Arkansas river; * * * from September 2, 1872, to the present date, as post surgeon, Fort Barrancas, Florida, and has rendered there valuable and efficient services during the two epidemics of yellow-fever.

Very respectfully, your obedient servant,
JAS. K. BARNES,
Surgeon-General, U. S. Army.

Special Details.—Member and secretary of the Havana yellow-fever commission of the National Board of Health (1879). Delegate from the United States, under special instructions from the honorable the Secretary of War, to the International Sanitary Conference of Rome (1885). Detailed, by direction of the President, in pursuance of the authority contained in the provisions of the act of Congress, approved March 3, 1887, to make investigations in Brazil, Mexico and Cuba, relating to the etiology and prevention of yellow-fever (1887-'89). Consulting bacteriologist to the health officer of the port of New York (1892) by authority of the War Department, and in compliance with special request of the health officer of the port

of New York and the advisory committee of the New York Chamber of Commerce.

As Surgeon-General of the Army.—General Sternberg established the Army Medical School and encouraged medical officers to engage in scientific researches by establishing laboratories and furnishing necessary apparatus at all the larger post hospitals. He also provided all new hospitals with well-equipped operating rooms, and directed medical officers to operate for hernia, varicocele, etc., instead of discharging soldiers having disabilities curable by surgical procedures, to become life pensioners upon the Government. He established the Tuberculosis Hospital at Fort Bayard, New Mexico. At the outset of the Spanish-American War he issued a circular calling attention to the danger from typhoid fever in camps, the role of flies in the propagation of this disease and the importance of camp sanitation. He organized the "Typhoid Fever Board," with Major Walter Reed and Dr. Victor C. Vaughan, of Michigan, as members. Upon his recommendation the last-named gentlemen were commissioned as surgeons of volunteers in order that they might serve upon this board. He organized the Yellow Fever Commission of 1900 with Major Walter Reed as chairman and Drs. Carroll, Lazear and Agramonte as members.

During the Spanish-American War he established general hospitals at Key West, Fla., Savannah, Ga., Fort Thomas, Ky., Fort McPherson, Ga., Fort Monroe, Va., Fort Myer, Va., Washington Barracks, D. C., and San Francisco, Cal. Two hospital ships—the Relief and the Missouri—were purchased and equipped upon his recommendation; a fully equipped hospital train was kept in service as long as required. All surgeons of volunteers and contract surgeons, with a few exceptions, were appointed upon his recommendation. He organized the female nurse corps, and the corps of dental surgeons in compliance with acts of Congress which had been passed in accordance with his recommendations. He recommended a large increase in the Medical Department to correspond with the increase in the army made in 1901.

The following extracts are taken from "Red Cross Notes," Series II, No. 2, 1898:

The Surgeon-General.

Among the throng of military officials who in these stirring days hurry in and out of the War Building

at Washington, our subject would not be taken for a general; you would recognize him as a soldier who has passed through long, arduous, earnest campaigns, but even his uniform, sword and medals do not build him up to a typical general. He is without the assumption, the bluster and blow. But step into his headquarters and you will find that he is in every sense the head of the service, the chief whose will governs all. That modest, unassuming man is most exacting, a man of command, of thorough execution, a general whose eyes comprehend every microscopic detail, who has studied the **personnel** of every member of his corps and can work them with the rapidity and precision of a machine gun. He is a general, and in the momentous campaigns now before him has mapped out every inch of ground that will be covered. In thirty-seven years he has, step by step, gone from the foot of the class, to the head of the department and has carefully measured every fractional part of an inch as he passed by. He knows in his favorite way by experimental evidence every need, every capacity, every shortcoming of the service. He is familiar by actual demonstration in his own hands with every appliance or method that could be of possible use in military medical service, either in war or in peace. He has lived in the land where the battles of the present war will be fought and knows its every feature of soil and climate. He has studied the germs of yellow fever infection in their habitat, with culture tubes and microscope in hand, and with its poisonous virus coursing through his own veins.

As the Surgeon-General, the physician or the man he is modest and unassuming; he is always busy, but seemingly never in a hurry. Everything is well done and done systematically. He thinks and works all the time without waiting for moods. He takes no man's dictum; nothing to him is an established fact until he has personal experimental evidence of its truth. Work that must in part be performed by others, must come under his review.

When the over-zeal of enthusiasts shall have passed away and the story of bacteriology in the nineteenth century is written up it will probably be found that the chief among those who brought light out of darkness was George M. Sternberg. He will be noted, not so much for his brilliant discoveries, but rather for his exact methods of investigation, for his clear statements of the results of experimental data, for his enor-

mous labors towards the perfection and simplification of technique, and finally for his service in the practical application of the truths taught by the science. His early labors in bacteriology were made with apparatus and under conditions that were crude enough.

Dr. Sternberg would never make a success as a campaign orator. His addresses are most carefully prepared, full of serious argument founded on absolute facts, culled from his own research. They are in language so plain as not to be misunderstood, but they do not contain a line of sentiment and are delivered in an easy conversational style. Though he has written an enormous amount, he believes that the pen is a feeble instrument in science when compared with the test tube, the microscope and the chemical balance. His writings are, therefore, pen pictures of his results in the laboratory and clinic room.

Membership and Honors in Medical and Scientific Societies.

Member and ex-president of the American Public Health Association; member and ex-president of the American Medical Association; member and ex-president of the Association of Military Surgeons U. S.; member and ex-president of the Philosophical Society of Washington; member and ex-president of the Biological Society of Washington; member and ex-president of the Cosmos Club of Washington; member and president of "The President's Homes Commission" (1907); honorary member of the American Association of Physicians; honorary member of the Association of American Medical Colleges; fellow of the New York Academy of Medicine; president of section on military medicine and surgery of the Pan-American Medical Congress; late fellow, by courtesy, in Johns Hopkins University (1885-90); honorary member of the Epidemiological Society of London; honorary member of the Academy of Medicine of Rio de Janeiro; honorary member of the American Academy of Medicine; honorary member of the French Society of Hygiene, etc.

The LL.D. degree was conferred upon General Sternberg in 1894 by the University of Michigan, and in 1897 by Brown University.

Activities After Retirement.—President of the Washington Sanitary Improvement Company; president of the Washington Sanitary Housing Company; president of The President's

Homes Commission; president of the Citizens' Relief Association; president of the Washington Sanatorium Company and director of Starmont Sanatorium; chairman of Committee on the Prevention of Tuberculosis; treasurer of the National Association for the Prevention of Tuberculosis; member of Committee on International Tuberculosis Congress; member Board of Directors of Garfield Hospital; member of Board of Visitors of St. Elizabeth's Hospital; professor of Preventive Medicine in the Faculty of Graduate Studies of George Washington University.

During the fifty-seventh Congress, the Senate passed a bill having the approval of the Secretary of War to retire General Sternberg as a major-general. This bill was also favorably reported by the military committee of the House in the following language:

> "Your committee in view of the long, faithful and distinguished service of General Sternberg believe that the bill should become a law and accordingly recommend its passage."

When called up under suspension of the rules on June 2, 1902, the bill was opposed from the floor of the House on the ground that it would afford a precedent for similar legislation in other cases, and it failed to receive the necessary two-thirds vote.

General Sternberg passed away on November 3, 1915, after an attack of apoplexy. His wife survives him. His late years were bright with the public acknowledgment of his great achievements. He can have no better epitaph than the recognition given him by those who knew him best as the "most useful citizen."

DR. CARLOS J. FINLAY—A BIOGRAPHICAL SKETCH*

By ARISTIDES AGRAMONTE, M. D., Sc. D., Havana, Cuba.

The name of Dr. Carlos J. Finlay is familiar to every student of tropical medicine, as he was the discoverer of the mosquito's rôle in the transmission of yellow fever. This savant, whose recent death at the age of eighty-two years has been universally deplored, was one of the most remarkable characters in the history of contemporary science.

It is rather difficult to condense within the limits usually al-

*Read by title at the Thirteen Annual Meeting of the American Society of Tropical Medicine, held in Washington, D. C., May 9, 10, 11, 1916.

lotted to an article of this kind all that might be said in reference to Finlay's notable career, and it would cover many pages, indeed, to even briefly outline all the good that his "earthly evolution" brought upon mankind.

Finlay saw the light during what is known in Cuba as the "year of the cholera," in 1833, when the Island was visited by one of the worst epidemics in its sanitary history, which until fifteen years ago was quite disreputable. Of Scotch and French extraction, his father was a physician, evidently of a wandering temperament, for the subject of this sketch had occasion to visit South American countries as well as other West India islands, before his adolescence, at which time he was sent to France, where he obtained part of his early training, at the Licèe of Rouen.

His education then suffered a considerable setback, upon his developing a severe attack of chorea, of such a character that it caused his parents to bring him back to Cuba, where he finally recovered, though he ever retained a peculiar hesitancy in his speech, leading many to think that his case was one of ordinary stuttering. This slight defect, which impeded the freedom of expression when his mind was most active, in anger or discussion, often led people to belittle his real and remarkable mental attainments and no doubt was conducive, more than once, to painful misrepresentation of his aims and desires.

As he was rather undersized and of delicate constitution, advantage was taken of opportunity to live for a few years in the North, where he finished his medical education, graduating from the Jefferson Medical College of Philadelphia in 1855. Ten years later, he married Miss Adele Shine, a lady belonging to a prominent family of the Island of Trinidad, West Indies.

A year after, in a paper presented at the Havana Academy of Sciences, in application for the title of Supernumerary Member (now obsolete), Finlay says that since 1858 (three years after graduating), he had been engrossed in the question of the etiology of yellow fever, and one may very well date the period of his activities in that direction from that early statement. Then and for many years after, in fact until 1880, Finlay ascribed prominent etiologic importance to the alkalinity of the air, in yellow fever. Numerous papers read before the Academy of Sciences and the Society for Clinical Studies, of which he was

an active and enthusiastic member, tended to prove his contention. His demonstrations and arguments, though failing to convince anyone, were received generally with the respect they deserved for the evident good faith in which they were performed and presented. This train of thought was subsequently abandoned, without very clear explanation for the change. It probably died the natural death which comes to all errors or mistakes.

Thus in 1881, Finlay read a paper, also before the Academy of Sciences, upon "The Mosquito Hypothetically Considered as the Agent of Transmission of Yellow Fever." Needless to say, if his previous efforts had been received with indifference or given little credence, this article, dealing with such a tangible (and hence trivial) cause of propagation, met with the coldest reception; only the man's social standing and his reputation for uprightness of purpose no doubt kept many from outwardly expressing the ridicule they felt, if not their utter incredulity with regard to most of Finlay's assertions in connection with mosquitoes and their relation to yellow fever. Even before the presentation of that paper, while in Washington, at the International Sanitary Conference (1881), he referred to "the presence of an agent whose existence be entirely independent from the sick and the disease, but necessary to transmit the infection from the sick to the healthy," though at the time he dared not to mention the mosquito.

It is difficult to decide what was most admirable in the general make up of Finlay's character, his power of painstaking investigation and his process of logical deduction, or his faithful perseverance against the most distressingly ennervating forces, those born of disdain, indifference and failure. What wonderful fortitude! What deep-rooted convictions must have presided over his hours of lonely brooding to have permitted him to hold so tightly to his theory in the face of continued defeat! For continued defeat may be justly considered the repeated failure to demonstrate what virtually was, if not exact, fundamentally true, that, clear and evident to his broader vision, was hidden to the mind's eye of his near-sighted confreres.

Through twenty years he struggled, contending, experimenting, observing and in every way investigating the details that appeared to him of the greatest importance. The practice of his

profession provided for the wants of his exemplary family and the education of his sons, while his scientific disappointments were amply repaid by the happy and blissful home life which attended him to the end. During this period, from 1881 to 1900, Finlay never ceased to believe in the mosquito theory. For a good part of his early work he was ably assisted by Dr. Claudio Delgado, who brought to it, besides, his training in bacteriological technic, encouragement and moral support. Together they endeavored to cultivate the germ of yellow fever from the mosquitoes' proboscis, from blood and other sources, believing for a time that they had been successful in the discovery of the *Micrococcus tetragenus* that Sternberg, upon becoming acquainted with it, called *versatilis* because it seemed omnipresent in Havana.

Nothing daunted by failure, like the crusaders of olden times, Finlay continued his researches. He endeavored to produce immunity by the use of blister serum from cases of yellow fever and also by the application of supposedly infected mosquitoes, in a number of men. Finlay's enthusiasm led him to believe, and he so reported, that he had produced mild cases of yellow fever with his mosquitoes, and, though certainly negative (we now know that they must have so resulted, inasmuch as his mosquitoes had not been sufficiently incubated and were therefore not infective when applied), his apparent success served to buoy him up in his faith, adding thus greater strength to his conviction.

In the memorable excursion made by Gen. Geo. M. Sternberg, then Major, to some of the South and Central American countries in his quest for the real etiologic factors relating to yellow fever, no little attention was given to the investigation of Finlay's claims. Unfortunately, the ubiquitous *Micrococcus tetragenus* was *de furore* at the time and it was so easy to knock that on the head that the main issue was lost sight of in its undoing. The mosquito theory then remained with but two devotees, Finlay and Delgado, until 1900.

Finlay's recognized clinical experience and his friendship with Gen. Sternberg, in spite of their scientific discrepancies, led to his being appointed Acting Assistant Surgeon in the Army during the war with Spain and, in fact, Finlay was sent to Santiago, serving there in the capacity of yellow fever expert until the

definite occupation of the Island by the American forces in 1899. He was then appointed a member of the Board of Experts intended to diagnose every case of yellow fever occurring in Havana. In this position he acquitted himself brilliantly; his untiring energy and his devotion to the faithful performance of the work before him made him a most valuable aid to the sanitary administration of which he subsequently became the head.

In 1899, consistent with his belief in the mosquito as the propagator of yellow fever, Dr. Finlay recommended, in a general way, prophylactic measures which were, of course, entirely overlooked.

Coincident with the events of the Spanish War, the relation of mosquitoes to malaria was demonstrated in Europe in a manner beyond question: on the other hand, all the usual methods of disease prevention applied to yellow fever in Havana had not affected the morbitity reports of that infection, though a better understanding of its clinical aspects had improved the mortality rate.

In 1900, through the investigations carried out by the U. S. Army Board, Finlay's theory became a doctrine and was soon accepted by the scientific world. The knowledge derived from the Board's findings served as a basis for one of the most remarkable and spectacular sanitary campaigns, under the direction of the present Surgeon General W. C. Gorgas, then a Major, when yellow fever was stamped out in one of its recognized and most virulent foci, the city of Havana.

The number of lives that have been saved by the acceptance of Finlay's theory will never be exactly recorded, but as time passes and we see how the disease, thanks to our knowledge of its etiology, is waning in intensity and narrowing its geographical extent, we come to realize what a great benefit it has proven to humanity.

It is impossible to think of Finlay's glory in this respect without reverting at the same time to the credit due the Army Board for having made it viable. Other investigators, no doubt, in the course of time, would have brought out the experimental details necessary, which Finlay himself because of lack of support and training had been unable to present before, yet the fact remains that we know not until when they would have rested unknown

but for the work of the Army Board which carried out the demonstration; hence the great credit due the one robs not the other of a particle of his glory. Thus I am sure, as I trace these lines in reverent memory of Dr. Finlay, I cannot be justly criticised for remembering and setting down the names of my co-workers, Reed, Carroll and Lazear.

The scoffers, the indifferent and unbelievers were conquered by truth and quickly fell into line to do homage to Finlay in his triumph. His Alma Mater conferred upon him the degree of Sc. D. *honoris causa;* the French Government made him an officer of the Legion d'Honneur; the English awarded him the Mary Kingsley Medal; while many learned societies, amongst them this American Society of Tropical Medicine, elected him to honorary membership. In 1911, the Paris Academy of Sciences elected Dr. Finlay a Corresponding Member, and in 1912 he was awarded, together with the writer, the Academy's Bréant Prize, for contributions to Tropical Medicine.

His intellect remained clear and vigorous until 1909, when the Cuban Government retired him on a pension, with the honorary titles of Member of the Board of Infectious Diseases and Chairman of the National Board of Health. At this time the natural infirmities of advancing age began to prey upon his health, turning him melancholy and listless until his death, which took place on the 20th of August, 1915.

The most salient traits in the character of this great man were his honesty of purpose and his firm religious faith; modest and unassuming ordinarily, he was powerfully assertive when defending his rights; his conversation, always instructive, was often interspersed with witty anecdote and there ran a serio-comic vein in the course of his most earnest speech. Harmonically blended in his nature were all the best qualities that tend to make a man loved and respected by those who come in contact with him.

In the death of Dr. Carlos J. Finlay, the writer has lost a friend; society, a member worthy of emulation; Cuba, his country, a spotless and exalted citizen; science, one of its shining lights, and mankind, one of its real benefactors.

SOCIETY PROCEEDINGS.

Report of the Clinical Section of the National Association for the Study and Prevention of Tuberculosis.

By WALLACE J. DUREL, M. D., New Orleans.

The twelfth annual meeting was held in Washington, D. C., on May 11 and 12, 1916.

The following three papers formed a symposium:

"The Separation of Tuberculosis From General Medicine," Dr. Thomas McCrae, Philadelphia.

"The Relation of General Hospitals to Tuberculosis," Dr. George Dock, St. Louis.

"The Education of the Medical Student in Tuberculosis," Dr. W. S. Thayer, Baltimore.

The papers were elaborately and generally discussed, with the following conclusions:—The solution of the problem lies in education, naturally of the profession, but much more so of the medical student. A thorough training in the knowledge of tuberculosis should be an essential part of the work in medicine in every medical school. Tuberculosis should be given especial attention, either as a separate department or in some other distinctive manner. The teacher in tuberculosis should be proficient in this branch of medicine, and have acquired the necessary clinical and practical experience. The teacher in tuberculosis need not necessarily be a specialist, especially if he is to teach diagnosis only. The specialist becomes an absolute entity in the treatment of tuberculosis.

The following resolution was unanimously passed:

"Be it resolved, That it is the sense of the Clinical Section of the National Association for the Study and Prevention of Tuberculosis to recommend the use of special wards for the care of tuberculosis cases in general hospitals."

These wards should be limited in number of beds, and long-standing and hopeless cases should be referred to special tuberculosis hospitals.

"Be it further resolved, That more time be given to the study of tuberculosis in medical schools, and that the medical student

be given a better opportunity to study the disease in tuberculosis wards of general hospitals."

Dispensaries, clinics, classes, etc., do not give sufficient latitude for the study of the disease in all its phases.

Hemoptysis, as a symptom of other diseases, was a topic for general discussion, but nothing new was added to our previous knowledge. That pulmonary tuberculosis is often secondary to other pathological conditions, was clearly demonstrated by the cases cited in this paper.

The class method of "Home" treatment is a valuable asset in large cities; and the rest in the "Home" treatment was again proven of indispensable value in the management of such cases.

The X-rays, after general discussion, were shown to be of value in determining the regional topography of the lesions in the lungs, but helped very little in detecting the presence of scattered tubercles. Still, generally applied, it is a valuable accessory in diagnosis. Active lesions cannot be determined by X-rays, nor is it possible to specify the absolute nature of the shadows in the skiagraph, etc. The influence of certain diseases, as that of the respiratory tract, of influenza, of digestion, of appendicitis, etc., was shown to play a great part in affecting the course of pulmonary tuberculosis. The correction of such complications always proved of benefit, and often changed an apparently unfavorable into an improved or arrested case.

Eleven cases of non-tuberculosis of the base of the lung were reported as simulating advanced tuberculosis. Many of these cases had been inmates of tuberculosis sanatoriums for months before the proper diagnosis was made. Autopsy showed most of these cases to be pneumococcic or chronic influenza. No tuberculin tests were administered in these cases for a differential diagnosis. None showed tubercle bacilli in the sputum.

The care of the teeth of tuberculous cases again proved very essential in the management of such cases.

Tuberculosis of the bronchial glands, leading to that of the bronchial tree, was a subject of great interest, especially in detecting the primary tuberculous lesions in children. Skiagraphs and the tuberculin tests help in the corroborative evidence, with the enlarged veins and capillaries of the chest.

A diagnostic standard for tuberculosis in children was at-

tempted, and the various clinical findings and symptoms were included, i. e., temperature of 99.6° and above, loss of weight, indigestion, etc. The tuberculin tests, especially the skin test (scarification), were given as practical corroborative evidence of the presence of t. b. in the body. Children often show latent tuberculosis, as well as active disease.

The complement fixation test was reported upon by several, and may yet prove of value in determining between active and latent lesions.

The American Medical Association—67th Annual Session, Detroit, Michigan, May 13, 14, 15, 1916.

There were nearly 5000 registered at the Detroit meeting of the A. M. A., the next to the largest meeting yet held by the Association. There were easily two thousand more people in attendance and the crowd was in evidence everywhere. The hotels were more than full and all public places were in like state. The most of the section meetings were well provided for and the only adverse criticisms were aimed at the wide distances of the House of Delegates, the registration bureau and the various sections. As usual, the scientific exhibit was put as much out of the way as possible and made, also as usual, entirely secondary to the commercial display. This was all the more unfortunate this year, because of the meritorious character of some of the scientific demonstrations.

All of the section work was reported as of high standard, and therefore profitable to all who were engaged in the presentation or audience of papers.

The same political engineering of candidates for the chief offices was in evidence, resulting in the selection of a worthy candidate for president.

The House of Delegates had many matters for consideration, notable among which were the determination to have a speaker of the House of Delegates and the unanimous approval of the National Board of Medical Examiners. The enormous production of automobiles in Detroit was evidenced by the presence of so many on the streets and the physicians in attendance varied the many social engagements with visits to the manufacturing plants. Altogether the meeting was a success, but the attend-

ance at future meetings promises to be so large that cities of less than a million inhabitants, with proportionate hotel accommodations, must think twice before undertaking an invitation for the A. M. A. to meet among them. It is probably certain that many stayed away from Detroit because accommodations could not be secured nor assured, and quite a number left Detroit after reaching the meeting because hotel accommodations could not be had.

The following officers were elected: President, Dr. Charles H. Mayo, Rochester, Minn.; first vice-president, Dr. Lewellys F. Barker, Baltimore, Md.; second vice-president, Dr. John Leeming, Chicago, Ill.; third vice-president, Dr. J. Henry Carstens, Detroit, Mich.; fourth vice-president, Dr. George F. Keiper, Lafayette, Ind.; secretary, Dr. Alexander R. Craig, Chicago, Ill.; treasurer, Dr. William Allen Pusey, Chicago, Ill.; chairman of the House of Delegates, Dr. Hubert Work, of Colorado; vice-chairman of House of Delegates, Dr. Dwight H. Murray, New York; Board of Trustees: Dr. A. R. Mitchell, Nebraska; Dr. E. J. McKnight, Connecticut; Dr. Oscar Dowlnig, Louisiana.

The next meeting will be held in New York City.

COMMUNICATION

THE CHARITY HOSPITAL.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL,

New Orleans, La.

Gentlemen: According to the terms of the following resolution we are instructed to forward it to you:

> "Be it resolved that the Medical Advisory Committee of the Charity Hospital express its conviction of the soundness of the principles embodied in the present method of administering the Hospital as well as of the fairness and efficiency with which the present Board has governed the Hospital.
>
> Be it further resolved, that copies of these resolutions be forwarded to the Board of Administrators, the Medical Press and to the Governor of Louisiana."

Very respectfully,

(Signed)

HERMANN B. GESSNER, M. D., Chairman.

WM. KOHLMANN, Vice-Chairman

ISAAC IVAN LEMANN, M. D., Secretary.

June 21, 1916.

NEWS AND COMMENT.

ANESTHETISTS' MEETING.—The second annual meeting of the Interstate Association of Anesthetists will be held in the Hotel Seelbach, Louisville, July 25-27, in conjunction with the meeting of the National Dental Association. For any information address Dr. Hoeffer McMechan, Avon Lake, Ohio, secretary of the association.

NAVAL MEDICAL CORPS.—An examination for the Medical Corps of the Navy will be held on or about August 7, 1916, at Washington, D. C.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Great Lakes (Chicago), Ill.; Mare Island, Cal., and Puget Sound, Wash. Applicants must be citizens of the United States with satisfactory preliminary and medical education. The examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) Anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics. Successful candidates then attend the instruction at the Naval Medical School, beginning about October 1, 1916, receiving a salary of $2,000 per annum, and at the end of the course, if successful in an examination in the subjects taught, they are commissioned as assistant surgeons.

Full information may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

NATIONAL TUBERCULOSIS ASSOCIATION ELECTS OFFICERS.—The National Association for the Study and Prevention of Tuberculosis, at its meeting in Washington, D. C., May 9 to 12, elected as president Dr. Edwin Baldwin, Saranac Lake, N. Y.; vice-presidents, Dr. Watson S. Rankin, Raleigh, N. C., and Dr. James A. Miller, N. Y.; executive committee, Dr. George Thomas Palmer, Springfield, Ill.; Mr. Homer Folks, New York; Mr. John M. Glenn, New York; Mr. Lee K. Frankel, New York, and Dr. David R. Lyman, New Haven, Conn.

OFFICERS ELECTED IN MEDICAL JURISPRUDENCE ASSOCIATION.—The American Association of Medical Jurisprudence, at its annual meeting held in Washington, D. C., May 6, elected the following officers: President, Mr. Oscar W. Ehrhorn, New

York; vice-presidents, Dr. Philip Coombs Knapp, Boston, and Mr. Bartow S. Weeks, New York; secretary, Mr. Charles P. Blaney, New York; treasurer, Mr. John C. West, New York.

Better Employment of Medical Students.—News has come from Paris that the minister of war has lately received a delegation from the medical group in parliament, demanding better employment for medical students, who ought to be used as technical students and not as mere nurses. It was also demanded by the delegation that the students be grouped under the name of *eleves aspirants du Service de Sante* near a hospital where they should receive special instruction and, after examination, the title of *aspirants*.

British Helmet Against Head Wounds.—The French were the first to adopt a steel helmet in consequence of a large number of wounds in the head. The British then devised a helmet which has not the surprising lightness of the French, but it is considered to be better designed to meet its purpose. Its wide downward sloping brim protects the side and back of the neck and the temples and upper part of the face, as well as the top and sides of the head. While the helmets are by no means bullet-proof, they offer such resistance that a missile which penertates them loses most of its force.

Full Time Medical Teaching Adopted at Yale.—Full time instruction in medicine, whereby the medical and surgical teaching staffs will give up their private practice and devote their entire time to teaching and hospital work, has been adopted at Yale. This makes the third medical school to adopt this plan, Johns Hopkins and Washington Universities being the other two.

American Medical Editors' Association.—The annual meeting of this association will be held at the Hotel McAlpin, New York City, October 25 and 26. A most interesting program is in course of preparation. The meeting will be devoted exclusively to problems of a strictly journalistic nature, which will be of importance and interest to every editor and publisher of a medical journal. Among the papers to be presented are the following: "Editorial Control," "The Editor's Prerogative in Editing Original Articles," "Book Reviews in Medical Journals," "Problems of the Subscription Department," "The Rela-

tionship Between Medical Journals of the Day," "The Uplift in Medical Journalism," "The Influence of the Medical Press and Profession in Public Affairs," "The Rights of an Author in the Disposition of His Contribution."

WARNING.—We are advised that a swindle is being worked on physicians by a man fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books, representing himself as working his way through college and trying to win a certain contest. He usually gives a receipt bearing the heading of some society or association which does not exist. He is a young man, of Jewish type, slender, with dark hair combed back and shows his teeth when talking. His idea is to collect money by offering special prices on medical books and journals and skip with the money. This young man frequently uses the name of W. B. Saunders Company.

DANIEL DRAKE MEMORIAL TABLET UNVEILED.—The unveiling of the Daniel Drake Memorial Tablet presented by Mrs. Elizabeth Drake Morrill Edwards, great-granddaughter of Daniel Drake, took place on June 10. Daniel Drake was the founder of medical education in Cincinnati. The presentation of the tablet to the Medical Faculty of the University of Cincinnati was made by Mr. Burgess Allison Edwards, son of the donor, and the unveiling, by Elizabeth Drake Morrill, great-great-granddaughter of Daniel Drake. Dr. Christian R. Holmes, Dean, accepted the tablet for the Medical Faculty. Introductory remarks were made by Mayor Puchta and Dr. Joseph Ransohoff.

WAIVES EXAMINATION FEE.—It was decided at the last meeting of the National Board of Medical Examiners to waive the examination fee and to charge each applicant only a nominal registration fee of $5.00. The first examination will be held in Washington, D. C., October 16, 1916. For full information, address Dr. J. S. Rodman, 2106 Walnut St., Philadelphia.

GYNECOLOGICAL OFFICERS.—The following officers were elected at the annual meeting of the American Gynecological Society held in Washington, D. C., May 9-11, under the presidency of Dr. J. Wesley Bovee, of that city: Dr. Frank F. Simpson, Pittsburgh, was elected president; Dr. George C. Ward, Jr., New York, secretary, and Dr. Brooke M. Anspach, Philadelphia, treasurer.

WOMEN PHARMACISTS.—Owing to the war, the number of women students of pharmacy has greatly increased, and some of the principal schools of pharmacy have registered as many women as men. Such is the demand for women assistants to take the place of young men that a woman pharmacist who advertises for an appointment receives several offers at salaries ranging from $500 to $1,000 a year.

ANOTHER GIFT TO TULANE.—Of the gifts that have been presented to Tulane University recently none has been accepted with more satisfaction and appreciation than the transfer of the old historic French Opera House of New Orleans to the University. The name of the donor, for some reason, has been withheld, but his generosity is appreciated none the less, and his gift will go far to securing not only substantial revenues to the University, but, under the care and control of Tulane, the future of the famous old opera house will be preserved.

THE HOWARD TAYLOR RICKETTS PRIZE.—This prize for research work done in the department of pathology and bacteriology of the University of Chicago, which is awarded each year on May 3, the anniversary of Dr. Ricketts' death from typhus fever, was awarded this year to Dr. Oscar J. Elsesser.

BEQUEATHS EPILEPSY FUND TO JOHNS HOPKINS.—By the will of Miss Jessie Gillender, who died recently in Los Angeles, the medical school of Johns Hopkins University is to receive $100,000 for the establishment of the Epilepsy Medical Research Fund. The income of the fund is to be spent in investigating into the cause, prevention and cure of the disease.

THE WISCONSIN STATE MEDICAL SOCIETY, uniting with other medical and surgical societies of the state, and the Wisconsin Anti-Tuberculosis Association, held a "Clinical Tuberculosis Meeting" in Milwaukee, June 6 to 10, inclusive. Physicians of national repute from all over the country, including Dr. F. M. Pottenger, of California, and Dr. E. H. Skinner, of Kansas City, Mo., participated in the program.

AMERICAN RED CROSS MEMBERSHIP.—The campaign which was inaugurated a few weeks ago to increase the membership of the American Red Cross to 100,000 has been successful and the membership has now passed the desired mark and the campaign is still going on.

TULANE COLLEGE OF MEDICINE.—For the first time in the history of the Tulane School of Medicine every member of the senior medical class successfully completed the prescribed course which entitled them to the M. D. degree. There were seventy-four men in the class and each received his diploma at the commencement exercises of the university at the French Opera House on June 7. The graduates are:

Wilmer Baker
John Young Bartholomew, M. D.
Benjamin Bashinski
Webster Whitall Belden
William Louis Bendel
Edwin Eugene Benoist
Edgar Joseph Beranger
William Paul Bordelon
Eleazar Robinson Bowie, M. D.
Solomon Relophard Boykin
Malcolm Irwin Brewer
Henry Beechum Burdeshaw
Enoch Callaway
Alfredo Alonso Cantu
Pierre Numa Charbonnet
Joseph Raymond Chisolm
Arthur Wesley Fegtly
John Blaise Ferran, Jr.
Henry Lawrence Gardiner
Charles Edward Garratt
Upton W. Giles
Frank Branch Gooch
Aynaud Foster Hebert
Samuel Dana Henderson
Ben Rufus Heninger
Joseph Paul Israel
Albert Charles Jackson
Allen Johnson
George Mitchell Jones
Karl Frederick Kesmodel
John Arthur Keyton
Kenneth William Kinney
Thomas Joseph Kirwin
Arthur Louis Korff
Willie Frank Krone
Louis Zelick Kushner
Edwin Mayer Levy
Alfred Lawson Lewis
James Louis Locascio
Edgar Furman McCall
William P. McCrossin, Jr.
Bathune Freeman McDonald
William Peter McKay
William Joseph McLean
Roger John Mailhes
Eric Leonial Major
Robert Lampkin Maness
Thomas William Martin
William George Milholland
Hilliard Eve Miller
Adam Wood Montague, Jr.
Clyde Leon Morris
Emile Fidel Naef
Ruffin Alexander Paine
James Howard Park, Jr.
Farrar Burr Parker
Buford Kirkman Parrish
Presley Louis Pound
John Galbraith Pratt
Clarence Cecil Randall
Jesse Dean Riley
Maurice Samuel Rosenthal
Benjamin Clarence Rush
Paul Pullen Salter
William James Sandidge
Pleasant Addison Taylor
Jerome Manuel Triolo
Reynold Christian Voss
Samuel D. Weaver
Grover Grady Whitley
James Clinton Willis, Jr.
Robert Edward Windham
George William Wright
William Herbert Wynn

The other schools of the college graduated the following: School of of Pharmacy: Karl von Metzradt. School of Hy-

giene and Tropical Medicine: *Doctors of Public Health*, Charles Schuyler Harper and Luther Allen Riser. School of Dentistry: Edward DeLisle Wooding Deane, Charles George Dugas, Robert Lenton Griffith, Walter Chavigny Hava, Daniel Kelly Henry, Le Dorr Richardson Houk, Charles Gould House, Augustin Logan Magruder, Frederick William McClure, Alphonse Charles Bernard Meynier, Harry Matthew Nolan, Hazel Gabrielle Price, Oscar Blanton Taylor, Bob Ernest Trigg, Benjamin Floyd Walton, Roy White, Theodore Wilson.

LOUISIANA STATE BOARD OF MEDICAL EXAMINERS.—At a meeting of the Louisiana State Board of Medical Examiners held in New Orleans, June 8, 9 and 10, 1916, sixty physicians were present for examination in medicine, of which number fifty-two passed and were granted certificates. The names of the successful applicants who received certificates are as follows:

Wilmer Baker, Benjamin Bashinski, Webster Whitall Belden, William Louis Bendel, Edwin Eugene Benoist, Edgar Joseph Beranger, George Regard Beridon, William Paul Bordelon, Eleazar Robinson Bowie, Solomon Ralph Boykin, Enoch Callaway, Pierre Numa Charbonnet, Samuel Clarence Dean, John James Donasier, John Blaise Ferran, Jr., Charles Edward Garrett, William Ira Green, Aynaud Foster Hebert, Ben Rufus Heninger, Joseph Paul Israel, Albert Charles Jackson, George Mitchell Jones, Kenneth William Kinney, Thomas Joseph Kirwin, Willian Frank Krone, Louis Zelick Kushner, Edwin Mayer Levy, Alfred Lawson Lewis, James Louis Locascio, Roger John Mailhes, Eric Leonial Major, Thomas William Martin, William George Milholland, Brastus L. Miller, Hilliard Eve Miller, Jamison Cottrell Mills, Emile Fidel Naef, Farrar Burr Parker, Buford Kirkman Parrish, John Galbraith Pratt, Jessee Dean Riley, Maurice Samuel Rosenthal, Paul Pullen Salter, William James Sandidge, Harry Maxwell Smith, Isaac Henry Smith, Reynold Christian Voss, Grover Grady Whitley, James Clinton Willis, Jr., Robert Edward Windham, George William Wright, William Herbert Wynn.

During the session, four physicians were granted certificates to practice medicine in Louisiana through reciprocity, namely: William Nathaniel Hankins, Minda A. McLintock, Vollie Lafayette and Charles L. Schmidt.

At the midwifery examination held June 9, sixteen applicants were present, of which number three were successful and received certificates, namely: Mrs. Edna Theodora Bennett, Mrs. Elizabeth Hotard and Ivy Jones Moore.

The next examination of the Board will take place in New Orleans, November 30, December 1 and 2, 1916.

REMOVALS.—Dr. O. T. Logan, from Changteh Hunan, China, to Bethany, Ill.

The Medical Fortnightly and Laboratory News, from 803 North Garrison Avenue, St. Louis, Mo., to 928 North Grand Avenue.

Dr. S. E. Prince, from Monroe, to Curtis, La.

The Modern Hospital, from 437 Fifth Avenue to 1 Madison Avenue, N. Y.

Dr. John W. Pendleton, from Burkett, Texas, to Tulsa, Okla.

PERSONALS.—Among the physicians of New Orleans who attended the meeting of the American Medical Association held in Detroit, June 12-15, were Drs. Rudolph Matas, F. M. Johns, Isadore Dyer, S. M. D. Clark, L. R. DeBuys, M. Feingold, W. H. Seemann, Oscar Dowling, R. C. Lynch, E. S. Hatch and E. L. King.

Professor Elie Metchnikoff, head of the Pasteur Institute at Paris, France, is seriously ill with heart trouble.

Professor August von Wassermann, head of the Royal Institute for Infectious Diseases at Berlin, has been appointed director of the Institute for Experimental Therapy at Frankfort, succeeding the late Professor Paul Ehrlich.

Dr. F. F. Martinez has been appointed director of the newly organized Institute of Tropical Medicine at Granada.

Sir R. Havelock Charles, president of the medical board of the India Office, was appointed dean of the London School of Tropical Medicine, succeeding the late Sir Francis Lovell.

MARRIED.—On June 24, 1916, Dr. Robert Foster Fennell, a former graduate of Tulane School of Medicine, to Miss Margaret Street, both of Guntersville, Alabama.

DIED.—On May 22, 1916, at British Honduras, Dr. Moise Lafleur, a well-known young physician of Opelousas. Dr. Lafleur was shot by Guatemalan soldiers. He was engaged in scientific research work in British Honduras.

PUBLIC HEALTH NOTES.

The Illinois Leprosarium has been established on the grounds of the Watertown hospital. The institution has already two occupants.

After almost a year of effort on the part of the United States government, a shipment of salvarsan valued at $250,000 was received in New York last month.

The House of Representatives passed a bill June 8, providing for divisions of mental hygiene and rural sanitation in the United States Public Health Service.

An appropriation has been made in New York including $65,000 for the purchase of land and the erection of a building for the laboratory of the state department of health.

Owing to an epidemic among the marines, in which black water fever was one of the troubles, the U. S. hospital ship *Solace* hurriedly sailed for Liberte, Cape Haitien, on May 27.

Ten Nathan Straus infant milk stations were opened June 1, in addition to the eight that remain open during the winter. This is the twenty-fifth year that Mr. Straus has provided pasteurized milk for the poor children of New York.

Major Weston P. Chamberlain, M. C., U. S. A., Plattsburg Barracks, N. Y., who has been on duty with the 30th Infantry in camp at Ft. Sam Houston, has been relieved from duty there and ordered to report to the Department Surgeon for temporary duty in his office.

Dr. George M. Kober has been elected president of the Washington Sanitary Housing Committee. Mrs. George M. Sternberg has been elected a member of the board of directors to fill the place made vacant by the death of her husband, General Strnberg.

The health commissioner of Kansas City, Missouri, Dr. Paul Paquin, has announced that in building up a new and more efficient department of health, the city will be divided into seventeen districts. A sanitary officer will be at the head of each, who will have charge of the sanitary condition of his district.

A new floating hospital, the *Helen C. Juilliard,* has been built and equipped in New York at the cost of $125,000. The legal capacity of the boat is 2,400, but the actual number will probably be limited to 1,800 in order to improve the service. Provisions are made for more serious cases than is usual in such floating hospitals.

Mr. and Mrs. George Blumenthal have given $24,000 to be used for the equipment of a base hospital in connection with Mount Sinai Hospital, N. Y. This is the fourth unit to be organized under this branch, each unit consisting of twenty physicians, forty-six nurses, and 125 orderlies and assistants. The equipment is stored in New York, subject to the instant call of the government.

The bill providing for "the care and treatment of persons afflicted with leprosy and to prevent the spread of leprosy in the United States" was passed by the House of Representatives. The bill provides for an appropriation of $250,000, to be used for a home for lepers, the maintenance of patients and the pay and maintenance of necessary officers and employees until June 30, 1917.

According to the Bulletin of the El Paso County Medical Society of May, at the beginning of the typhus epidemic, the prisoners of the city jail were given a bath in equal parts of kerosene and vinegar and their clothes were dipped, on account of filth and grease, in a mixture of cresole and gasoline. The prisoners were searched for matches before the baths were started and repeatedly warned during the baths by the doctor and his four assistants. Just as the last bath was given an unruly dope fiend found a broken match on the floor, and, to be ugly, struck it. The gasoline fumes which had permeated the old, unsanitary building exploded at once. The total death rate was 27.

BOOK REVIEWS AND NOTICES

Pathogenic Bacteria and Protozoa, by Joseph McFarland, M. D., Sc. D. Eighth Edition, revised, with 323 illustrations, many in colors. W. B. Saunders Co., Philadelphia, 1916.

As a reference work for medical bacteriology, and the various technique by which the organisms are identified in the various diseases, this book ranks among the very best. This, the eighth edition, has been well revised, bringing the writings practically up to the present time.

The structure, classification and biology of micro-organisms are condensed into short paragraphs of the salient facts that tend to make these usually dry chapters rather readable.

The chapters on infection and immunity are full. Many of the passing conceptions of immunity expressed in graphic terms could probably be left out, and immunity in some instances expressed in simple English.

The various pathogenic bacteria and protozoa are taken up under headings of the clinical nomenclature—a type that renders the subject matter somewhat easier of access in reference work.

It would be indeed difficult to write a book of bacteriology and protozoology, whose contents would harmonize with the views of everyone. For instance, the author's characterization of the finding of gram negative, intracellular diplococci in pus from suspicious gonorrheal lesions as a "rough and ready" diagnosis of gonorrhea compared to the isolation and identification of the gonococcus on culture media would in the light of many of our clinical experiences be a far more accurate statement if reversed.

Again, one of the most trying microscopical diagnoses is that of the various parasitic skin infections so very common in our Southern states. Several of these are mentioned briefly, but by far the most are entirely omitted.

These small criticisms are but fine points in diagnosis, however, and will not mar the great mass of material summed in this book for a doctor with a good, thorough training

in clinical microscopy, for whom this book as a reference for the more uncommon things will be of invaluable aid.

F. M. JOHNS.

The Basis of Symptoms, the Principles of Clinical Pathology, by Dr. Ludolph Krehl. Authorized translation from the Seventh German Edition by Arthur Frederic Beifeld Ph.B., M. D., with an introduction by A. M. Hewlett, M. D. Third American Edition. J. P. Lippincott Company.

All admirers of Krehl's work will welcome this new translation and edition. The two former American editions translated by Prof. Hewlett were issued under the title of Clinical Pathology. It seems to us that both the former title and the present one fail adequately to describe the scope of the work, and hence fail to attract to its perusal the very people who might most profit by it. Krehl's own title, "Pathologische Physiologie" (Pathological Physiology), seems much to be preferred. The field which this book covers ought to be made the subject of a separate course in every medical school, for it is by means of attempting constantly to explain disease in terms of morbid function that we shall hope to progress in the study of medicine. Stress must be laid more than ever in the future on the necessary correlation between physiology and the science of medicine, for to physiology (normal and morbid) belongs the future of medicine. Krehl's book will continue to serve as a stimulus and an inspiration to the clinical teacher, the clinical investigator as well as (and most important of all) to the undergraduate and graduate student of medicine

I. I. LEMANN.

A Handbook of Infant Feeding, by Lawrence T. Royster, M. D. Illustrated. St. Louis: C. V. Mosby Co., 1916.

A Practical Treatise on Infant Feeding and Allied Topics. For physicians and students. By Harry Lowenburg, A. M., M. D., with 64 text-engravings and 30 original full-page plates. Philadelphia: F. A. Davis Company, 1916. 380 pages.

We have here two excellent works on infant feeding, which, though differing somewhat in scope and arrangement, are both worthy of a place in the library of the busy physician.

The smaller work, by Royster, is a compact, highly concentrated extract of the practical knowledge contained in the larger, encyclopedic works on pediatrics. The busy practitioner frequently needs such a work, and the author presents in an easily accessible form the cream of the practical knowledge that a busy man most needs. Further, the book is written in such simple, untechnical language that it might very properly be placed in the hands of intelligent mothers who could thus more efficiently co-operate with the medical attendant.

Dr. Harry Lowenburg's work is more comprehensive. It embraces chapters on breast-feeding and artificial feeding, infantile atrophy, rickets, scurvy, spasmophilia, constipation, diarrhea, exudative diathesis, pyloric obstruction, stomach washing, colonic irrigation, nasal feeding, gavage, feeding by the bowel, feeding during intubation, feeding during the acute infectious diseases, hypodermoclysis, feeding in nephritis. In nephritis, Lowenburg does not dread chloride of sodium; on the contrary, he advocates the addition of salt in generous quantities to the diet of all nephritics, and he administers it rectally, hypodermically or intravenously as the cases seem to require. The illustrations call for special mention. There are ninety-four figures of all kinds, eleven of which are in colors. These colored plates show meconium, normal breast stool, normal stool of artificial feeding, stool of indigestion, stool of dyspepsia, fatty stool, calcium-soap stool, undigested protein stool, bismuth stool, infantile scurvy. These illustrations are invaluable, for they convey accurately and instantly information that can scarcely be imparted by the printed work. Taken all in all, Dr. Lowenburg's is one of the most satisfactory practical works that it has been our privelege to read. *A. McSHANE.*

Practice of Medicine, by James M. Anders, M. D., Ph.D., LL.D. Twelfth Edition, W. B. Saunders Co. 1915.

The earlier editions of this work have been frequently and favorably reviewed in these columns. The present edition has been carefully revised and much new matter has been added while a considerable number of chapters have been largely rewritten. While there is much to praise in this work, there are also, in the reviewer's opinion, a number of serious

omissions or faults. The important subject of cardiac arrhythmias is very insufficiently and in large part incorrectly discussed. While this work devotes much more space to treatment than most similar works, there is unmistakable evidence that during the revision the sections on treatment have received scant attention. The reviewer notes among other omissions or (in his opinion) errors the following: No mention of atophan in the treatment of gout; a perpetuation of the delusion as to the harmfulness of red meat in this disease; a statement that the hypodermic administration of mercury is to be adopted "only when very prompt action of this agent is desired;" in the chapter on cardiac diseases the importance of syphilis as a cause and a treatable one is not sufficiently emphasized; a statement that strychnin, gr. 1-30 to 1-15, is the most efficient cardiac stimulant known; on two successive pages the dosage of digitalis is put down as five minims of the tincture three times a day and as dram i to iij, 3 or 4 i.d., or oz. ss q. 2 or 3 h. for 2 or 3 days. It is rather surprising to see the author of this work stating that the object of the preparatory treatment of a patient with tapeworm is "the starvation of the parasite." We hope that in later editions of Dr. Anders' excellent and useful book the sections on treatment will be brought up to the level of the other portions. *J. T. HALSEY.*

The Treatment of Acute Infectious Diseases, by Frank Sherman Meara, M. D., Ph.D. The Macmillan Company New York.

This is a practical, useful book written by a competent and successful physician for physicians and for medical students. In it the author gives the best exposition of modern methods of treating acute infectious diseases, of which the reviewer knows. While theory and hypothesis are not neglected in the discussions, they do not in this work, as is so often the case, tend to confuse the reader, but should arouse his interest and stimulate him to try and treat his patients rationally and logically instead of being contented to go on treating them by rule of thumb. The author has considerable faith in the efficiency of drugs and is not afraid to say so, any more than he hesitates to express his scepticism as to the value of various widely used and highly esteemed remedies. The

book abounds in little practical hints as to the best way of doing things, and these will prove of great value, especially to the young doctor.

We hope that a new edition will soon be necessary and that in it the author will devote more space to discussion of what may be called the physiology of acute infections, and to the subject of vaccins and serum therapy. The chapter on malaria should be rewritten, in part at least.

In conclusion the reviewer most heartily recommends this work to anyone wishing to supply himself with a modern and authoritative work on the treatment of these every-day diseases. *J. T. H.*

Autoplastic Bone Surgery, by Charles Davidson, M. D., and Franklin D. Smith, M. D. Lea & Febiger, Philadelphia and London.

Here we have a valuable contribution. The text is well arranged and clearly printed; numerous instructive skiagraphs and illustrations form a useful part of the work.

The Workingman's Compensation Law makes it desirable on the part of all surgeons to secure accurate anatomical results, instead of being satisfied with good functional or physiological results.

The three opening chapters contain a clear and lucid description of the physiology, pathology and histology of the growth and regeneration of bone, with a full discussion of the fate of the bony transplant within the tissues drawn from both experimental and clinical observations, with a resume of the literature on this subject, with the conclusions and results of the different investigations in this field, showing the results obtained from the periosteal covered and periosteal free transplant. These chapters are particularly interesting and instructive and should be read by all interested in this field of work. The much-disputed question regarding the function of the periosteum and the part which it plays in the viability and growth of the transplant is amply discussed. In the presentation of any disputed point, the various views are given with the results obtained by experimentation by the different investigators, often with the author's criticisms and conclusions.

A study of the healing of fractures is included in bony growth.

An excellent description of the instruments, technic and methods employed in the many varied conditions is clearly and lucidly presented.

The entire field of bone surgery is thoroughly covered, beginning with recent simple fractures, then follow in classified order, the congenital and acquired defects and deformities of the cranium, facial bones, vertebral column and long bones. Many of these procedures are well described and illustrated by reports of cases. A thorough bibliography forms a useful addition. *CARROLL W. ALLEN.*

PUBLICATIONS RECEIVED

P. BLAKISTON'S SON & CO. Philadelphia, 1916.

Manual of Operative Surgery, by John Fairbairn Binnie, A. M., C. M., F. A. C. S. Seventh edition, revised and enlarged.

LEA AND FEBIGER. Philadelphia and New York, 1916.

Fractures and Dislocations, by Kellogg Speed, S. B., M. D., F. A. C. S.

Blood Pressure; Its Clinical Applications, by George William Norris, A. B., M. D. Second edition, revised and enlarged.

W. B. SAUNDERS COMPANY. Philadelphia and London, 1916.

Gynecology, by William P. Graves, A. B., M. D., F. A. C. S.

Embryology, Anatomy, and Diseases of the Umbilicus Together With Diseases of the Urachus, by Thomas Stephen Cullen.

The Medical Clinics of Chicago. May, 1916, Volume 1, Number 6. Index Number.

WASHINGTON GOVERNMENT PRINTING OFFICE. Washington, D. C., 1916.

Public Health Reports. Volume 31, Nos: 19, 20, 21 and 22.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for May, 1916.

Cause.	White	Colored	Total
Typhoid Fever	7	9	16
Intermittent Fever (Malarial Cachexia)	.....	.....	....
Smallpox	.....	.....	....
Measles	.....	.....	....
Scarlet Fever	.....	.....	....
Whooping Cough	1	1	2
Diphtheria and Croup	1	.....	1
Influenza	1	2	3
Cholera Nostras	.....	.....	....
Pyemia and Septicemia	.....	1	1
Tuberculosis	33	67	100
Syphilis	24	6	30
Cancer	.....	1	1
Rheumatism and Gout	9	.....	9
Diabetes	3	.....	3
Alcoholism	7	2	9
Encephalitis and Meningitis	1	.....	1
Locomotor Ataxia	17	15	32
Congestion, Hemorrhage and Softening of Brain	.....	.....	....
Paralysis	.....	1	1
Convulsions of Infancy	12	8	20
Other Diseases of Infancy	1	.....	1
Tetanus	3	2	5
Other Nervous Diseases	55	48	103
Heart Diseases	1	.....	1
Bronchitis	14	16	30
Pneumonia and Broncho-Pneumonia	1	1	2
Other Respiratory Diseases	1	.....	1
Ulcer of Stomach	3	1	4
Other Diseases of the Stomach	31	13	44
Diarrhea, Dysentery and Enteritis	4	1	5
Hernia, Intestinal Obstruction	2	9	11
Cirrhosis of Liver	6	2	8
Other Diseases of the Liver	.....	.....	....
Simple Peritonitis	7	1	8
Appendicitis	24	18	42
Bright's Disease	11	13	24
Other Genito-Urinary Diseases	4	2	6
Puerperal Diseases	2	1	3
Senile Debility	6	.....	6
Suicide	29	13	42
Injuries	23	32	55
All Other Causes	.....	.....	.....
Total	344	286	630

Still-born Children—White, 12; colored, 27; total, 39.

Population of City (estimated)—White, 276,000; colored, 102,000; total, 378,000.

Death Rate per 1000 per annum for month—White, 14.96; colored, 33.65; total, 19.90. Non-residents excluded, 17.17.

METEOROLOGIC SUMMARY (U. S. Weather Bureau.)

Mean atmospheric pressure 29.95

Mean temperature ..... 77.

Total precipitation ..... 7.97 inches

Prevailing direction of wind, southeast.